

H.R. 4503, THE DERIVATIVES SAFETY AND
SOUNDNESS SUPERVISION ACT OF 1994

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H.R. 4503, The Derivatives Safety a...ING

BEFORE THE

COMMITTEE ON BANKING, FINANCE AND
URBAN AFFAIRS

HOUSE OF REPRESENTATIVES

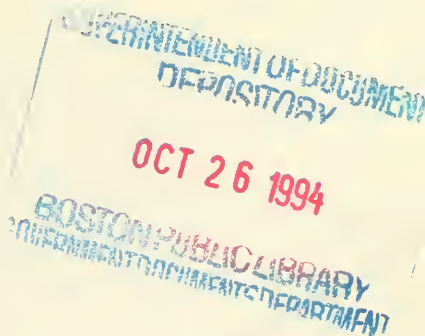
ONE HUNDRED THIRD CONGRESS

SECOND SESSION

JUNE 23, 1994

Printed for the use of the Committee on Banking, Finance and Urban Affairs

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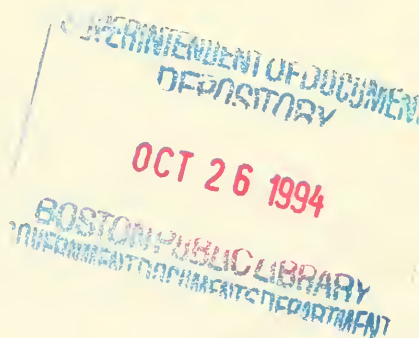
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H.R. 4503, THE DERIVATIVES SAFETY AND SOUNDNESS SUPERVISION ACT OF 1994

THURSDAY, JUNE 23, 1994

HOUSE OF REPRESENTATIVES,
COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS,
Washington, DC.

The committee met, pursuant to notice, at 10 a.m., in room 2128, Rayburn House Office Building, Hon. Henry B. Gonzalez [chairman of the committee] presiding.

Present: Chairman Gonzalez, Representatives Neal, LaFalce, Kennedy, Orton, Klein, Barrett, Furse, Wynn, Watt, Dooley, Leach, McCollum, Roukema, Bereuter, Baker, Knollenberg, Lazio, Grams, and Huffington.

The CHAIRMAN. The committee will please come to order.

The committee meets today technically on H.R. 4503, the bipartisan derivatives proposed legislation known as the Derivative Safety and Soundness Supervision Act of 1994. I am convinced more than ever that the committee should continue to press forward on this topic and in fact act this session on this legislation, despite the objection of the chief regulators, Alan Greenspan, and some others.

The banking industry and the bank regulatory agencies maintain that legislation to control derivatives so-called activity is not needed. But this has always been the story through the 32½ years that I have been a member of this committee. And it is the same song reflected in the industry choruses, and then, of course, we look at the record. These are the same voices and the same regulators, with the exception of some that have gone out, like the Home Loan Bank Board, that have brought us similarly hyped endeavors beginning with the so-called loans to lesser developed countries, highly leveraged transactions, massive real estate loans, resulting in the loss of hundreds of billions of dollars in soured loans.

Now, I don't care if an institution wants to go into any kind of business, as long as it isn't done with the taxpayers' money, and this is what we are about. We are referring and targeting the insured depository institutions of this country.

Now, over on the other committee, having jurisdiction on the securities activity, we have had our counterparts also express some concern and interest, and we are very active in that regard in their area. Now, the serious mistakes in judgments that jeopardized the financial health of the banking industry and its insurance fund, and in the case of the Savings & Loans, that fund and the consequent loss of hundreds of billions of dollars are still being doled out by the taxpayer.

As chairman, I am committed to taking the necessary steps to ensure that the same debacle does not occur with respect to this activity that is the subject matter. I think we have a responsibility that is inescapable. As policymakers, we should listen to what the industry and the regulators have to say, but history teaches us we cannot afford to blindly follow their advice or words.

Up to now, I think the regulators are to be commended for the strides they have taken in addressing the risks posed by some of these activities known as derivatives. But, certainly, more needs to be done, and particularly from the bank credit or funding side. Big banks are still placing billions of taxpayers' bank deposits at risk by speculating with derivatives.

In addition, as an indicator of how pervasive speculation has become in the world financial system, I want to point out that an official of the Bank of England recently disclosed that some 20 central banks are using derivatives to engage in speculation related to their gold holdings. I am trying to find out where our so-called central bank is on that. But up to now we have got more information from the Bank of England officials than we have locally.

I am absolutely opposed to the bank's using deposit insurance to support massive speculation, and I am also opposed to central banks using derivatives to speculate in gold or any other market. We must seek to curb speculation, and I am concerned that the bank's regulators, in particular the Chairman of the Federal Reserve Board, have not taken adequate steps to curb speculation.

It is the responsibility of the Congress—and I want my colleagues to know that when the time for accountability comes, and it inevitably does, it is the Congress that the people think has the power or the responsibility to address these problems. And the very people causing this will blame the Congress, as some already are. In the meanwhile, you have articles in the industry publications, agitating about how Congress might in its ignorance hurt this great industry known as derivative trading.

The bill we have before us is an attempt to meet this responsibility. First quarter derivative losses by the big banks, the money market funds, and the more or less derivatives-related losses incurred by such firms as Proctor and Gamble and others indicates that we have a problem.

For example, it is not only here, it is worldwide, and I wanted to remind my colleagues that Chairman Greenspan was the same man that came before the Congress less than 2 years—in fact, less than 1½ years, before the whole Savings & Loans thing collapsed, and told us that Keating and Lincoln S&L specifically was the greatest ongoing venture ever, and also added his encomiums and approbation to 16 or 17 other S&Ls, all of whom went under in less than 2 years.

This is the same man that now is telling us, you shouldn't do anything. However, I think we ought to realize, and I am going to put this in the record, and that is what Mr. Greenspan has already told the Congress with respect to this. It was lost sight of, it wasn't recorded, but it is a matter of record.

On May 25, in testimony before the Subcommittee on Telecommunications and Finance of the Committee on Energy and Commerce, while denying the duty of the Congress to regulate de-

rivatives, he arrogantly called for a bank bailout. And I am going to quote the language.

My colleagues, I invite you to study that statement before that subcommittee as well as the one the following day before the Senate Banking Committee. And I am quoting. "Regulators are going to have to judge the magnitude of the market losses that bank capital should be expected to absorb. In making this adjustment, regulators must recognize that there is some highly unlikely events, say those attend only once in a half a century that may call for government action to backstop, backstop bank capital so as to avoid systemic problems."

Well, we have systemic problems already. And if we want to dig our head in the sand, that is fine. But I don't think that I choose to do so.

The plain fact, and I think the Comptroller in his testimony brings out some definitions, that the derivatives are actually the main line of so-called derivative activity and the equivalent of side bets on things ranging from stock market trends, interest rates, currency values, to the price of natural gas. A jargon of its own has developed, as it always has; the gambling enterprises we know have long developed their own lingua franca, but now the country has been in a gambling largess. Let's gamble in order to solve our problems for funding education and everything else.

So you have such things as options, swaps, caps, collars, floors, and even swap options, which is a hybrid, and captions, floor board rate agreements, futures, straddles, strangles, butterflies, and spreads. That is gamblers language, not banking.

The very famous columnist for Barrons says derivatives are instruments of the Devil. And even he doesn't always understand them. Michael Rammage in Canada left Wood Gundies, Inc., which is a brokerage arm or agency for the Canadian Imperial Bank of Commerce, and he left because of huge losses of millions, and that was on interest rate derivative gambling and caps and floors and swaps that the Canadian dollar book, they call it over there.

In Chile, a 32-year-old whiz kid, the equivalent of some of us we read about in the press, finally ended up being indicted and convicted. He was in charge of the derivatives and disappeared, leaving losses for his employer, the nationally owned mining trust, amounting to five-tenths of 1 percent of the Gross National Product of Chile.

Today's papers report the shakeout at Kidder Peabody Group, Inc., a GE subsidiary, after SEC investigation of the degree of supervision exercised by Kidder Peabody and group, second agent in charge, Edward Sarullo.

This was the same management, however, that was the target of a lawsuit from Texas on the part of the Commerce Savings Association in which they allege that in 1987, Kidder, as broker, sold securities to them that it had at \$28.3 million and had bought that same day for \$22 million, a profit of 29 percent. The SEC says that anything over 10 percent is considered fraudulent.

When the Commerce people complained, they were told quote, "If we make a profit of \$6.3 million in one day at your expense, that is too damn bad," end of quote. So it is something that we have a

clear, preempted obligation to confront and act on it, not just talk about it.

Ultimately, the people think and expect us to have the responsibility to impose stability. If the Treasury won't do it, if the Federal Reserve won't do it, the Congress must. And it used to be that that was not any kind of a surprising statement, when you had Congresses that were very responsive to the people, and not captives of the special interests. But today, that sounds like a horribly radical statement. But I for one—and that means regardless of what is said or isn't—will insist that we act before this session is over on this legislation, and not too much in the distant future.

So with that, I recognize Mr. Leach.

[The prepared statement of Chairman Gonzalez can be found in the appendix.]

Mr. LEACH. I thank the distinguished chairman.

I would like to commend you particularly for holding this hearing today and would recognize the notable panel of witnesses who have each contributed in their own way to the discussion of the subject. First of all, of course, our distinguished colleague, Senator Dorgan, who introduced the first piece of legislation on derivatives in the Senate.

I also look forward to the testimony of Chairman Bowsher. The GAO's report on financial derivatives released in mid-May was the result of an exhaustive and detailed research effort aimed at evaluating the financial derivatives market, and represents a critical step in providing well-needed, adequate oversight of the financial markets.

The principal findings of the GAO's report are consistent with the report the minority of the Banking Committee issued last fall and the legislation the minority introduced on the subject this past January. Such findings include: One, that derivatives risk management requires public as well as corporate oversight; two, that regulatory gaps heighten systemic risk; three, that accounting principles for derivatives have not kept pace with business practices and; four, that the protection of internationally linked financial systems requires coordinated international efforts. The report also highlights that current capital standards are inadequate for financial institutions that engage in derivatives activities.

Of particular import is the GAO conclusion that the development of consistent cross-industry standards requires that the currently unregulated OTC derivatives activities of securities firms and insurance company affiliates should be placed under the purview of one or more existing Federal financial regulators. Such a provision was included in the minority's original legislation, but due to jurisdictional concerns is not currently included in the bill recently introduced by Chairman Gonzalez and myself.

As the S&L debacle evidenced, money has a tendency to flow disproportionately to institutions with the lowest standards. Corporate entities not required to meet commonsense standards that others might be required to meet have competitive advantages and pose a particular hazard to the proper and efficient functioning of the markets.

Much importance has been placed on the recent FASB exposure draft on derivatives disclosure, and certain provisions included in

the bill introduced by Chairman Gonzalez and me directly parallel a number of these FASB proposals. Enhanced disclosure of derivatives activities is a very important and effective step toward market transparency, and advances a general awareness of derivatives holdings by those parties affected by them.

Of particular note in the FASB statement is that derivative instruments held for trading would be distinguished in disclosure from those held for other purposes, such as hedging. The line between legitimate hedging and other activities such as speculation is becoming increasingly difficult to sort out, and disclosures toward this end would be extremely helpful. Parts of the derivatives game are played in such a way that there can be losers as well as winners, and if there is a traumatic event, virtually all parties can become entwined in a lose-lose rather than a win-win scenario.

Finally, the opinions of the other panelists are highly regarded. I am particularly taken by the observation of Mr. Rotberg and that observation being that the only perfect hedge is in a Japanese garden.

In addition to discussing the derivatives proposals of the witnesses before us today, we are also here to discuss H.R. 4503. H.R. 4503 represents a joint effort between the majority and the minority to establish clear lines of supervisory accountability for federally insured financial institutions and is an important step in preventing what could be significant disruption of the financial world system.

Since the introduction of the minority's Derivatives bill in January, H.R. 3748, numerous press accounts have reported over 16 separate events where U.S. companies have suffered significant losses related to derivatives. In fact, just since the introduction of H.R. 4503 on May 25, substantial losses have been reported at mutual funds and other money market funds; namely, the Piper Jaffray Mutual Fund, PaineWebber Bond Mutual Fund, Zweig Cash Fund, and CS First Bond Institutional Money Market Fund.

Such losses have heightened the awareness of derivatives risk, and more particularly, suitability risk in both the regulatory community and the industry itself. It is our responsibility in Congress to fully examine such issues and, where appropriate, act in a prudent way. H.R. 4503 is designed to be of a framework nature, positing standard setting within relevant professional bodies such as the Federal Reserve Board, rather than Congress. The regulators who have testified before this committee have not trivialized the derivatives issue, and even speculator George Soros expressed concerns to this committee about the proliferation of derivatives and noted that under certain circumstances, such instruments may pose a threat to the markets and the banking system.

In addition to our legislation, however, it is important that other relevant committees address the regulatory gaps outlined in the GAO Report and elsewhere in order to ensure a level playing field. Given again that one of the lessons of the S&L debacle is that money flows to the least regulated, it is crucial that cross-industry and cross-border standards be established.

Derivatives are important new additions to the financial landscape, and it is key that the market be allowed to flower. It is also clear that the garden should not be despoiled. In this context, Mr.

Chairman, I am hopeful that we all, and by "all" I mean the industry, Congress, and regulators, can continue to work together in this important issue, and I look forward to today's testimony.

Thank you.

The CHAIRMAN. Thank you very much.

I neglected to say and the record should show that Mr. Leach is the author of a bill that he introduced early and then we joined together in this H.R. 4503.

Mr. Neal.

Mr. NEAL. I just wanted to welcome our distinguished colleague, Mr. Dorgan, and I look forward to his testimony.

Thank you.

The CHAIRMAN. Unless a member feels obligated to, I am going to ask unanimous consent that each member have the privilege of presenting for the record introductory remarks.

Mr. BAKER. Mr. Chairman, I don't want to disrupt your effort to move us along, but I would feel compelled to make just a couple of comments if it would not be inappropriate.

The CHAIRMAN. No, sir. You are recognized.

Mr. BAKER. In light of the comments by you, Mr. Chairman, and Mr. Leach as well, with regard to the entire subject matter, first let me say I commend both of you and the Senator for bringing this debate to public light. But perhaps I share a slightly different view of the risk potential in the market at the moment.

I would like to make three quick and very simple points, I hope. One is between regulated financial institutions who engage in risk-hedging activities, whether it is called a derivative or not, that is good for the marketplace. And I think we should be very careful as a Congress who has legendary skills in operating banks, before we begin to intervene in the actions of a private market which is very sophisticated and much more capable of judging risk and assessing interparty swaps than a regulatory requirement of this Congress.

Second, as between two private corporations who may engage in some interest rate or other type of derivative transaction, so far as I know this Congress has not yet told corporate America as to where or how you can invest your own private capital in a business transaction. And should you make a profit, we are happy for you, but if you make a loss, that is your problem.

If there is a potential risk at all that would warrant our intervention, in my view it would be as between a regulated financial institution engaging as an end user with a private corporation perhaps in an international setting where the analysis of the risk assumed could not be properly evaluated by the under party who may be the source of repayment for the end user in the international marketplace.

However, given the fact that the concern is that a taxpayer liability may arise if an end user is unable to meet his principal financial obligation, which puts the financial institution in distress, the question becomes, is an 8 percent reserve amount, as now required by law against the derivatives instrument, sufficient to offset the known historical loss ratios in international swaps. The 8 percent reserve standard is the highest of any standard for any risk-taking that an institution may be engaging in.

In my view, it would be unwise for us to step further into a regulatory arena without having the regulators who are responsible to this Congress and this administration tell us from their own observations that such higher risk reserves are necessary.

I respect the Senator's effort here this morning in coming before this committee and explaining his reasons for proposing such legislation. But I would point out that the goal of the legislation would, in effect, be to take banks out of being a swap dealer, but allow them to be an end user. And dealing in derivatives is much less of a risk, much like the insurance salesman, than it is in being the insurance company.

And so if we really want to preserve a bank's ability to regulate risk in a commonsense fashion, we should not rave at them for engaging in dealing and perhaps should only limit the end use of the product where warranted, based on regulatory oversight over an historical period of time.

So, Mr. Chairman, although I appreciate the opportunity for the hearing, I would urge caution by this Congress in moving rapidly in a very difficult subject matter.

The CHAIRMAN. I would urge the gentleman to read the bill.

Mr. LAZIO. Mr. Chairman, may I just make one brief comment also.

The CHAIRMAN. The gentleman is recognized for 2 minutes.

Mr. LAZIO. I just want to echo some of the things that my good friend from Louisiana just said and also commend the chairman and Mr. Leach for bringing this hearing forward. I am hopeful that we will have other hearings as well that would echo perhaps some different perspectives on the issue of derivatives.

There has been substantial publicity involved in this issue and in some of our weekly magazines. I think some of the reporting has been particularly irresponsible and inflammatory and hysterical, including some of the comments about the risk, the systemic risks, and the sense of notional value being at risk, when in fact I think any person that has any elementary understanding of derivatives understands that notional value is not at risk, that these are for the most part, and a GAO study, I think, corroborates this, that the brokers that are primarily involved in America in derivatives are fairly concentrated, they are well-capitalized, well-respected, well-managed institutions; they are not about to begin to trade on a parallel with Lincoln Savings.

I also want to comment that derivatives, when properly used, and that is what this is about, are risk mitigators. In fact, if we had these instruments back in perhaps the late 1970's and early 1980's, and if the savings and loans made use of them, that we would certainly have had probably less taxpayer exposure and certainly less business failures than we had in the end.

So derivatives have a very positive function in our economy, Mr. Chairman, and I hope we will keep that in mind as we have this hearing.

The CHAIRMAN. Thank you.

Senator, thank you very much for your patience, and thank you for taking the time to be here and submitting your testimony. We deeply appreciate it.

**STATEMENT OF HON. BYRON L. DORGAN, A U.S. SENATOR IN
CONGRESS FROM THE STATE OF NORTH DAKOTA**

Senator DORGAN. Mr. Chairman, thank you for allowing me to testify. I will be mercifully brief, and I appreciate the comments of the chairman and others on the committee.

I don't come here as an expert in banking affairs or an expert on the subject of derivatives. I am interested in the area and have been involved in a number of issues, but I don't claim to be an expert, nor do I expect, would anybody on this panel claim to know everything that is going on in the derivatives market. This is an extraordinarily complicated area and one that we should be concerned about, but one in which we should act thoughtfully.

I was listening to some of the comments and it reminded me of the period of the late 1980's when I was very concerned about what I saw as an outrage perpetrated on the American taxpayer in which we had kind of a daisy chain going on. We had folks who were creating junk bond issues and laying them off on S&Ls. The S&Ls were buying up junk bonds, and the effect was the American taxpayers were underwriting junk bonds.

In fact, the hood ornament of the shameful activity was that the American taxpayers ended up owning nonperforming junk bonds in the Taj Mahal Casino. I guess that probably says it all.

How did that happen? Well, junk bonds were issued to build the glitzy casino, the issues were purchased by a friend through a dealer who owned an S&L. The S&L went belly up, and guess who ended up owning the S&L's assets? The American taxpayer. In fact, the American taxpayer became the largest holder of junk bonds in the world as a result of what went on in the 1980's.

I can recall hearing after hearing, some of which were in the Ways and Means Committee and many of which were here, in which these questions were raised to proper authorities, Secretary of the Treasury and others with regulatory responsibilities. They said, "What are you talking about? We have things in place here that are going to respond to these, that are going to deal with these issues. This concern is hysterical."

Well, it turns out it wasn't very hysterical. We should have been more thoughtful; we should have been much more aggressive, and we should have been persuaded to act much more quickly.

I simply say that, not because I would suggest we shouldn't have below-investment-grade bonds in the country, some of them have been very helpful and very useful. I don't want S&Ls to be out buying junk bonds. They can't now because we changed the law. They had to divest the ones they own and they can no longer buy junk bonds. Why? Because we decided we didn't want institutions whose deposits were insured by the Federal Government to be involved in that kind of a risk, because we had learned that that risk is laid off to the American taxpayers.

Now, that brings us to derivatives. Derivatives, as Mr. Baker indicated correctly, are a normal part of financial transactions in this country and around the world, and hedging is a perfectly legitimate and a perfectly understandable and acceptable function in banking and in other areas. And I am not here today to suggest that derivatives are all bad or that we ought to do something starting next Monday that represents sweeping, massive reform in response to

an article in the *Fortune* magazine or in response to some other warning. I am here to say, however, that I think the lesson with respect to junk bonds ought to be a lesson we should learn also with respect to derivatives.

If we have institutions whose deposits are insured by the Federal Government, who have set up proprietary desks or desks for proprietary trading or trading in their own accounts on derivatives, they are, in my judgment, involved in a level of unacceptable risk for whom the losses would be covered ultimately by the American taxpayer.

I think the bill that Mr. Leach and Mr. Gonzalez have proposed makes a lot of sense. It suggests that we have greater scrutiny by regulators, a whole range of perfectly sensible steps.

I would encourage you to look at one additional step, one that I proposed over in the Senate. That is to say that just as a matter of course, we should not allow institutions whose deposits are insured by the Federal Government to set up proprietary accounts to trade in derivatives for their own purpose, because most surely if they exhibit that kind of risk and lose, then in every transaction there is a winner and a loser. If they lose, the American taxpayer ends up being the banker. And I just think that we should well have learned from that.

It is sort of interesting that aside from the issue of banking, one of the fastest growing industries in America is gambling. All of us know that. It is not just on Indian Reservations, although virtually all of the reservations these days are putting up casinos and discovering new ways to get involved. But gambling is not limited to tables covered with green felt.

Gambling occurs in many other ways, and I would suggest to you it occurred in a big way with junk bonds, and it is now occurring and can occur in a significant way in derivatives. Nothing wrong with that if someone in the private sector wants to risk their money, that is their business. They might win big, they might lose big. If they win big, they keep the profits and should, if they lose big they eat their losses.

My concern is, the disconnection between the needed perception of safety and soundness of core bank activities and the inherent risk or the inherent gambling proposition of proprietary trading and derivatives in a bank, and I would encourage you to look as you move forward with the kind of legislation you are suggesting at the basic core suggestion that we should not have those institutions whose deposits are insured involved in proprietary trading.

I am not suggesting in my legislation and the Senate does not suggest banks should not be involved in any derivatives activities. For hedging purposes, they will and should be involved in derivatives. I am simply talking about proprietary trading on their own account.

So, Mr. Chairman, that is all I have to contribute. You have a distinguished panel of witnesses who I think are going to offer some very interesting observations, and I expect this will be a rather lengthy and aggressive debate. And I hope at the end of this debate the contribution this committee can make, and I think will make, will lessen some of the risks for the American taxpayers.

Thank you, Mr. Chairman.

The CHAIRMAN. Well, thank you, Senator.

I know that you have your demands over on the Senate side, so I will have some questions that I will write to you about in connection with the legislation that you are proposing over on the Senate side. And thank you again.

Your reference to your interest and participation in the 1980's was at a time when you were a Member of this body, and in fact you appeared before this committee on the question of junk bonds. And your floor activity amendment to the bill that we passed out of the committee which was adopted by the House formed the key for our legislation.

So I think we recognize your sustained concern and interest in these matters and deeply appreciate your support of the proposed legislation, or at least the thrust of the legislation.

Senator DORGAN. I should mention Mr. Leach referred to me as Dornan, and that was a mistake I am sure.

Mr. LEACH. It was.

Senator DORGAN. Capital operators do the same thing and they often transfer Bob's calls to me, and when a recent constituent from Orange County got me and asked for my position on several issues she hung up in disgust saying she would never vote for Dorgan again.

Mr. LEACH. If the gentleman would yield briefly, I apologize, and we all wish we had the other Member's gift at gab. But my apologies. You are one of the great voices of the Midwest, in the United States, and indeed in America.

The CHAIRMAN. You may take comfort, you don't look alike, but both of you are very good looking, and photogenic.

Anyway, Mr. Leach, do you have any questions?

Mr. LEACH. I have no questions, but we are honored that you have come to testify before us.

Senator DORGAN. Thank you very much.

The CHAIRMAN. Mr. Neal. No questions?

Mr. Baker.

Mr. Kennedy.

Mr. Flake.

Well, it looks like you sold us over here. You couldn't do it when you were a Member of the House.

Mr. LAZIO. Mr. Chairman?

The CHAIRMAN. Oh, I beg your pardon. Mr. Lazio.

Mr. LAZIO. Thank you very much, Mr. Chairman.

Senator, good morning. I am wondering—and I appreciate your comments, and again, I just want to reiterate how much I appreciate you taking the time out to come over here before us. But there are some things that I am—I don't want to say I disagree with you yet, but I have some concern with.

It seems as though you are making parallels with the situation of the 1980's involving S&Ls and junk bonds, and as I recall, one of the problems when we mandated divestiture of junk bonds from the S&Ls is that it swamped the market and further imperiled certain of the S&Ls. And, certainly, since that time we have had better capitalized, better regulated banks. So isn't it possible that you are reacting to a crisis that has already past?

Senator DORGAN. I guess anything is possible. I think the greater possibility is that the Congress will not react to a potential problem until it is too late and the taxpayer will end up with an enormous bath. And I would, Mr. Lazio, say to you that the man you preceded and I used to have great debates about this issue, he too is from New York and had a different view, even on junk bonds.

My own view of the effect of what we did on junk bonds is different than yours, and I think we did what we had to do then. We did it far too late, and I would hope that what we do now we think through very thoroughly and then do it in a way that protects the taxpayer.

I would make one other observation. The financial industry in our country, especially the large banks and others, is a very volatile area. We ought not decide to legislate just ad hominem because somebody gets a notion. We need to be very thoughtful and very careful. And I think you suggest that, and Mr. Baker does and others. I fully agree with that.

But I do think there are times when those who run these institutions run way outside the fence, not understanding that their core bank activities, which are insured by the Federal Government, really ought to require them to run in a certain size pasture, and that is what bothers me about proprietary trading in derivatives.

Mr. LAZIO. I can understand your concern, and I think some of those, at least in my mind, have been addressed by some of the statements that have been made by the Chairman of the FDIC, and by Chairman Greenspan with respect to the abilities of the regulators to go out and to do the job that we are looking for them to do in terms of regulating some of our financial institutions.

I appreciate your concern about not handcuffing our financial institutions so that they can go out and do what we intend for them to do, to go out there and make the loans. To do that they need a certain degree of liquidity, they need to be competitive in the global market. We, certainly, need to keep that in mind, the possibility of moving this entire industry offshore because what drives derivatives is largely demand.

Let me just speak to you for a moment about correlation risk, which I think is something that perhaps you have talked about before, and the complexity of the markets and of the derivatives as they have evolved.

Is there something inherently different in your mind between a derivative purchased in one's investment account and the extension of a loan to, say, a farmer for example, who might have extensive commodity contracts to hedge against his risk? Isn't there an inherent exposure in both cases if one doesn't wisely make investments?

Senator DORGAN. Yes, there is, and in fact, when a financial institution makes a loan, it carefully assesses the credit risk of making that loan. The bank is in the business of making loans. We have had the experience of nonbank banks. So, you know, and the debate about that. But banks are fundamentally in the business of making loans, and when they make loans, they assess what is the inherent risk here.

My feeling is that if you have a bank that has set up a desk for trading on its own account in derivatives, it produces a multiple of

risks—credit, market, and others—far beyond that which is included in traditional loan-type activity.

Let me make one other comment about the first point you made. Having watched now for nearly a decade and a half here in Washington, DC, I honestly think that regulators are no match for the ingenuity and the inventiveness of those in our financial community in this country.

We always have to be out fixing fences. It is like running a ranch. If you are not out there fixing fences, get out of there real quick, because you are exposing taxpayers.

Mr. LAZIO. Someone said that about——

Senator DORGAN. Yes, but——

The CHAIRMAN. The time of the gentleman has expired.

Senator DORGAN. If I might just continue the answer, the point of feeling comfort because the Chairman of the Fed or someone else comes and says, don't worry, things are just fine. I have heard all that before from the same people. The fact is, they were just flat dead wrong, and I worry about people saying, be happy, don't worry, don't be too concerned, because we have been through that.

Mr. LAZIO. Thank you, Senator.

Mr. ORTON. Mr. Chairman, could I ask just one very brief question, and recognizing the time constraints on my friend, the Senator.

The CHAIRMAN. Yes, sir.

Mr. ORTON. You can respond in writing if you would prefer.

I think we recognize and share the recognition of legitimate use in some derivatives transactions as hedging and risk management, and I share some of your concerns about proprietary trading. I guess my question is, how you distinguish between the two? And that is the part I am having difficulty in being able to identify, how we are going to distinguish within a regulatory framework when an institution is performing risk management and when they are involved in proprietary trading?

I am leaning toward a great deal of disclosure as the mechanism that we would use in order to ferret that out, but I would be very interested in knowing your thoughts on how you are distinguishing between those two.

Senator DORGAN. I am not really able to give you a definition. I think most institutions have their own distinction of when they are trading on their own account and when they are not. I—the committee staff, working with the regulators, will be able to provide a workable definition of that.

You all make too much of the time requirements of those of us in the Senate. Since we have no rules over there, whoever started talking earlier this morning is likely still talking. And so I have lots of time.

The CHAIRMAN. I appreciate that.

Senator DORGAN. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Bless the Senate.

Does any other member have a question?

Thank you, Senator, very much.

Senator DORGAN. Thank you.

The CHAIRMAN. The second panel consists, of course, of our Comptroller General, Mr. Charles A. Bowsher, and with him the Chief Accountant, Donald H. Chapin. And James L. Bothwell, Director of the Financial Institutions and Market Issues of the General Government Division. Mr. Michael A. Burnett, the Assistant Director of Financial Institutions of Markets Issues, General Government Division. And Ms. Cecile O. Trop, Assistant Director of Financial Institutions and Markets Issues.

Thank you again, General, and of course, we appreciate from the very beginning your contribution to our efforts to grasp the dimensions of this legislative challenge. I wanted to thank you for giving us your statement in ample time to have read it and studied it. So without any further ado, you are recognized.

STATEMENT OF HON. CHARLES A. BOWSHER, COMPTROLLER GENERAL, GENERAL ACCOUNTING OFFICE; ACCOMPANIED BY LINDA M. CALBOM, SENIOR ASSISTANT DIRECTOR, ACCOUNTING INFORMATION MANAGEMENT DIVISION; JAMES L. BOTHWELL, DIRECTOR, FINANCIAL INSTITUTIONS AND MARKETS ISSUES, GENERAL GOVERNMENT DIVISION; MICHAEL A. BURNETT, ASSISTANT DIRECTOR, FINANCIAL INSTITUTIONS AND MARKETS ISSUES, GENERAL GOVERNMENT DIVISION; AND CECILE O. TROP, ASSISTANT DIRECTOR, FINANCIAL INSTITUTIONS AND MARKETS ISSUES, GENERAL GOVERNMENT DIVISION

Mr. BOWSHER. Thank you very much, Mr. Chairman and members of the committee. It is a pleasure for us to be here today to try to answer the questions that the committee has on what is a fairly difficult subject here, and that is the issue of financial derivatives.

We issued our report in mid-May, and I know many of you have read it, so I thought I would just try to make a brief summary here of some of the key points, and then, of course, also speak to the bill that your committee has proposed, H.R. 4503.

First, let me just say that there has been a large growth or runup, you might say, in the size of the derivative markets in this country and in the world. In our report we reported that it was about \$12 trillion by the end of 1992.

As somebody over here pointed out, that doesn't mean that there is \$12 trillion at risk, but there are many billions of dollars at risk, no matter how you do calculate the credit risk or the market risk, and these are very complex instruments, many of them, and at the same time they do serve an important purpose. In other words, it allows the businesses and firms to hedge their currency risk and interest rate risk and other risk, and so there is no question that they have served a very good purpose in many, many situations and continue to do so.

One thing we record in our report is that there is a large concentration here among the 15 major U.S. dealers. We point out at the end of 1992 the top seven domestic bank over-the-counter derivatives dealers accounted for more than 90 percent of total U.S. bank derivatives activity. And that the five top U.S. securities firms dealing in OTC derivatives accounted for about 87 percent of the total derivatives activity for all U.S. securities firms. And that

there were three big insurance companies in a big way, too, so it is really the 7 big banks, 5 big security affiliates, and 3 big insurance companies that make up the big 15, you might say.

A couple of other interesting things. One-fourth of this derivatives trading of these big U.S. dealers are with foreign dealers. In other words, three-fourths are within the U.S. borders, but one-fourth is overseas, of that \$12 trillion. And 40 percent of the business basically is done within the big 15, so that you have a fairly concentrated set of market participants here.

As everybody has been reading in the newspapers lately, there has been a substantial number of situations that companies and dealers have lost money here on these, which I think is a warning that we can have some problems in this area.

Proctor & Gamble, and I think some other firms in Ohio, there is an indication of what some of the problems are with the end users potential problems. We have the big German firm who lost close to \$2 billion and they had to put together a consortium of banks, I think close to 200 banks, to raise \$2 billion. That is far more than what we have, let's say, in our Chrysler, Lockheed, or New York City bailout, so it gives you the magnitude I think of what can be lost here. And if it was much larger than that, I would think maybe the governments might have had to come into the picture.

The Kidder situation is one that we are continuing to read about. I just don't know how much trouble they are in there. But they obviously have problems, and I think as an indication that they have already announced themselves how important controls are in this area. Having the right risk management systems, the right controls for your board of directors and your management is, I think, is very key.

We have the counterparty risk. We have a Swiss bank corporation here that just recently announced that they have lost \$70 million on a counterparty situation with another bank. That is really larger than any loss in any single bank, we think in the Hearse stock situation, which was a fairly troubling situation some years back.

Also, I think you have read that some of the hedge funds, some of the mutual funds, and some of the pension funds have had problems. So I think what we have had here is that there are some warnings, that this is an area that has some risk in it, and that trying to reduce that risk through proper oversight, proper controls, proper government review I think is important.

The other thing too I think some people don't fully realize is that you have a situation of liquidity here. Many of these over-the-counter derivatives are worked out between two firms. And then the question is, will there be a market for those instruments later on?

I think in some of the problems that we have been reading about here recently is when some of the other markets move, it doesn't have to be just where the derivative is, it can be in some other area. Why, when you go then to try to liquidate some of your portfolio, sometimes it is hard to find the market, and that is when sometimes they have to liquidate Treasuries or something else in

the portfolio, and that does then start to have some domino effect you might say.

One concern that we have had that we mentioned in our report, it goes back to, Mr. Chairman, as you pointed out, and that is the systemic thing. In other words, it is the Federal money that at some point in time can become at risk, and it isn't that we are worried about or trying to come up with solutions for private sector people making investments and losing money themselves as long as they just lose or gain, why, that is in the private sector. It is a concern sometimes that it could reach the insured deposits or the opportunity that some of the financial services industries have now to go to the discount window of the Fed and that. So that is really what I think.

Our recommendations really try to get to the problems that we mentioned. In other words, we discussed for the dealers the importance of having a risk assessment system or a risk management system. Some have it as a combined system; others have it as two separate systems, it appears to us. But if you are talking about risk assessment, you are talking about a system that tries to sort out just how many risks there are with these different instruments before they approve them, and then the risk management systems are more the internal controls and the limits that are put there to try to manage the area after you have gone into some of these transactions.

One of the big areas that we stressed a good deal in our report is the corporate governance area, which is very much in the private sector, and that is it is awfully important that the board of directors know what is going on, that the audit committees working with their internal audit group, the CPA firms, any other outside experts they might bring in, is to how well is the risk management system working.

And I think as one of the Congressman earlier mentioned here, disclosure is awfully important, because I think that it is important that the stockholders, the creditors, the people who are relying upon these kind of public companies know the extent of their risk if at all possible, and what is being done about it as far as having proper controls and limits and corporate governance and everything like that.

We also believe, of course, that the government should have proper oversight. This is being done in the banking area, because the derivatives are within the banks. It is being done by the Fed, by the OCC, and the regulators. But the security affiliates and the insurance companies do not have this kind of oversight at this point in time, and we did point out in our report that this is the situation.

When we speak of end users, we are speaking of the corporations and the other companies, but that includes sometimes mutual funds and pension funds who are buying derivatives to hedge some of their risks. Some are, obviously, going in on other risks. And therefore, it is awfully important I think that the corporate governance again be working, and that is that the board of directors understand the risks, that controls the systems in the risk management, and we think that is an area where the SEC should be ask-

ing for some more disclosure so that they can understand some of the risk that is taking place.

We have also raised the issue, of course, of the accounting standards and disclosure there. I would just like to read a paragraph or two from my statement. It says here: "Further compounding the regulators' problems and contributing lack of knowledge by investors, creditors and other market participants are the inadequate rules for financial reporting of derivatives activity."

We found that accounting standards for derivatives, particularly those used for hedging purposes by end users, were incomplete and inconsistent and have not kept pace with the business practices. We also found that additional disclosures are needed to provide a clear distinction between dealing, speculative and hedging activities, and to quantify interest rate and other market risk.

Insufficient accounting rules and disclosure for derivatives increase the likelihood that financial reports will not fairly represent the substance and the risk of these complex activities. In fact, much of the activity really is not reported on the financial statements; it is really reported off balance sheet, sometimes in footnotes, and so that is I think something that the accounting profession and the FASB ought to be dealing with, and I know they are trying to deal with that, as they will explain later here today.

Let me just say then that in just kind of a summary of our report there in May is that we believe that the innovation and the creativity are strengths of the U.S. financial services industry and that these strengths should not be eroded or forced outside the United States by excessive regulation.

However, we also believe that regulatory gaps and weaknesses that presently exist must be addressed, especially considering the rapid growth in the derivatives activity. The issue is one of striking a proper balance between one allowing the U.S. financial services industry to grow and innovate; and, two, protecting the safety and soundness of the Nation's financial system. Achieving this balance will require unprecedented cooperation among United States and foreign regulators, market participants, and members of the accounting profession.

And now I would like to just take a few minutes, Mr. Chairman, to comment on your bill and the committee's bill here, H.R. 4503. We think this is a step toward improving the regulation of certain financial institutions that are dealers and end users of derivatives. The committee should be commended for addressing this difficult and controversial issue and producing a constructive piece of legislation.

The bill would require regulators to establish consistent standards for accounting, for disclosure, capital, and examinations, and it could result in better call report data, including information on revenue gains and losses by class of product. It would provide regulators greater access to information in an emergency, and it would encourage international cooperation to harmonize derivatives regulation. These provisions are consistent with the recommendations in our report.

Mr. Chairman, there are other issues, but I maybe better stop there and answer any questions that you or any of the other members might have.

[The prepared statement of Mr. Bowsher can be found in the appendix.]

The CHAIRMAN. Thank you very much. And thank you for your leadership and help. It has been immeasurably important in helping us try to shape legislation.

The so-called proprietary trading account assets at the major derivative dealing banks have increased about 500 percent in the past several years. Bankers Trust, for example, has over 50 percent of its entire assets in its trading account. J.P. Morgan has over 30 percent. These banks and the other dealer banks engage in massive speculation for their own accounts, yet their activities are backed by Federal deposit insurance.

The first question: Should the Congress require bank derivatives' activity to be conducted in separately capitalized subsidiaries that are not federally insured?

And a followup would be, would it be feasible to impose a transactions tax on excess speculation?

And three, would a transaction tax move business offshore?

Mr. BOWSHER. Well, on the first question, it is one of the things we recommended in our report that needs to be studied very carefully, I think, and that is whether the bank, the insured bank, you might say, should be doing this with their proprietary money in accounts, and we don't have an answer for you. I think that the regulators have looked at it; they were concerned that it would move some of the capital out of the banks if you set it aside as in a separate affiliate. And that worried them.

I think that is an issue, but it does have the advantage, as Senator Dorgan pointed out, there in his legislation, that if you did get into trouble down the road, why, what you could do is separate possibly the bank away and not have the trouble that you have there. And if you remember, Mr. Chairman, in the Bank of New England when you had gained on one that you had a \$30 billion bank, but you had a \$30 billion off-balance sheet and you had to align the second part, which took many weeks before you could do that, and was done successfully. But it is a question of whether it can always be done successfully and everything like that.

There are a couple of problems, though, with separating them, I think. One of them is I have always wondered whether you truly would have a real wall between these two entities, as we saw in the Continental Bank sometime back, that that wall gets pulled down pretty quickly when one of the affiliates gets into trouble, because people do not want to let it go.

And so this is an area I think that needs more study, and it is an important issue. We don't have the answer for you today, I would say. But I think it is one. It has pros and cons to it, you might say.

On the two tax questions, again, we have not fully studied that, and so I just am hesitant to give you an answer on those two at this time.

The CHAIRMAN. Did we not have a study from GAO on similar type of—

Mr. BOWSHER. Yes. I think we answered the question. I think Cecile Trop down here did the work, that it was administratively feasible to do that, but I am not sure we answered the questions—

or were asked the questions quite as you have asked them here today.

Cecile, you might——

Ms. TROP. We questioned what the impact would be on the markets. We couldn't answer that question for you, but in terms of operationally, yes, you could collect it.

The CHAIRMAN. I remember now that the General explained. It brought up the question of administrative feasibility.

I will submit some other questions in writing. Thank you again very much, and your colleagues.

Mr. Leach.

Mr. LEACH. Thank you, Mr. Chairman.

Clearly, there are a number of common concerns that GAO is not unique to, Congress is not unique to, the industry is not unique to. But one of the great questions is, do you need legislation?

And, certainly, some of the things we call for in our legislation, regulators can do on their own, and one of the goals of legislation is to maybe just introduce it to get a little activity.

But I am wondering if you can address just the substantive question: Do you need legislation, and what are the advantages of having a legislative route versus a nonlegislative route, particularly from this perspective?

I have been told by almost everyone I have met in the industry that there is hardly a specific provision of anything that we have introduced that there is objection to, but there is objection in total to the idea of having legislation per se, partly foot in the door, partly that the legislation may come out looking very different than when it goes in. And so I would like your comments on that, if I could.

Mr. BOWSHER. I would be pleased to comment on that, Congressman Leach. Because in our discussion of a lot of people in the industry, and especially some of the senior people, not just the people who are head of the derivatives department, but let's say the CEOs and some of the board of directors, and that, we do not get the impression that they have any problem with our recommendations on improving controls, improving risk management systems, keeping the board of directors properly informed, having the audit committees check it out, and getting proper information flowing and getting the accounting straightened out and everything like that.

They do seem to be very concerned about legislation. They all say to us that we think we can do this ourselves, and what our impression is as we have met with the various institutions is that they are all working on it. In other words, they are moving ahead; they are making, from their description to us, they are making progress, and that.

I think what you really need is to have verification somehow. And I think that the verification can be done in the private sector, corporate governance model of the CPA firm, or some other outside firm doing a review on let's say an annual basis and reporting to the audit committee and that.

But in addition, I think the government regulators have to have some oversight too and be able to go in there and look. From what I can tell, the regulators are where they were, say, 2 or 3 years ago, not very up to speed maybe in some of these areas, have made

major efforts here now to build some teams. And I think that they should move out here, and I think move Mr. Greenspan, and Mr. Ludwig has announced that they plan to do that for the larger dealers, that they are going to look at the larger institutions and the dealers in a more comprehensive way than maybe they have in the past on this oversight.

The one big thing, though, that came out in the Group of Thirty report is not everybody is moving at the same speed or pace of getting their systems and their controls in place and everything like that. And the one advantage that legislation has is that it kind of pushes everybody down the road here to do it.

And maybe you would, with legislation, get everybody doing what they are supposed to be doing in this area. Without legislation, you might get a certain percent that are doing the right thing and maybe not everybody. So I think that is one of the big issues, is whether you need legislation or you don't need legislation.

Mr. LEACH. I appreciate that.

A second question; one of the peculiar aspects of dealing with legislation, that to the outside world seems quite strange is that there are committees of jurisdiction—and our committee has some jurisdiction, and other committees have jurisdiction over parts of the same market. And so we have a bill at the moment, the principal bill before us, that deals with our area of jurisdiction, but then that almost by definition, leaves other people in the same market that would be without a legislative umbrella.

Would you comment on the awkwardness of that, and is that a reason to not go ahead with our legislation or a reason to go ahead with our legislation under the understanding that others are likely to do something similar?

Mr. BOWSER. Yes. I think I would favor the latter, hoping that the others then would follow. The banks, obviously, have the more complete regulatory system that is in legislation at this point in time. The affiliates of the securities firms are outside; they can have some disclosure and that, but as far as the capital or going into check the risk management systems, they really don't have the authority to do that.

On page 11 of our report we have a chart there that clearly shows the gaps you might say in this area. Also, when you go overseas, some people have raised this issue, that you are going to force it all overseas. Actually, when you go overseas, the big dealers are regulated, generally by the central bank, or some kind of a bank, because most of this activity is being done in their large and what they sometimes refer to as their universal banking system.

So it isn't that you would be escaping, it is really America who has more of the hodgepodge of regulatory here, and I think it impacts the industry. And what we see here—and I know this committee has worried about this and addressed it in the past—is that we have a financial services industry that is changing very rapidly, and we have our own regulatory structure pretty much based on the model that was set up in the 1930's, somewhat modified, but basically that, after the great stock market crash and the bank closures of that period.

I think at some time we are going to have to bring some modernization on that. I have testified on that subject. But I think in

the meantime, until we can do something in that area, it is probably important to do the best we can in each area.

Mr. LEACH. Thank you.

The CHAIRMAN. Mr. Neal.

Mr. NEAL. Thanks, Mr. Chairman.

You said that the domestic derivative market is comprised of a few hedge funds, a few banks, a few security companies, and a few insurance companies. Could you give me those specific numbers again?

Mr. BOWSHER. Yes, I sure could, Mr. Congressman. In the banking area of the seven domestic bank over-the-counter derivatives dealers, you have seven that account for 90 percent of the total U.S. banking derivatives activity, and in the securities area you have five that comprise 87 percent.

Mr. NEAL. And how about of the total that is done domestically, most of it is done by those seven banks, five securities firms?

Mr. BOWSHER. And three big insurance firms.

Mr. NEAL. Three insurance firms and some big hedge firms I guess, right?

Mr. BOWSHER. No. The hedge firms are separate.

Mr. NEAL. So it is really seven and five and three.

Mr. BOWSHER. Yes.

Mr. NEAL. And of the total, what percent is done by the banks and by the securities firms and by insurance companies?

Mr. BOWSHER. Do we have that number?

Mr. BOTHWELL. Mr. Neal, the seven banks do about 70 percent of the over-the-counter and the five securities firms and three insurance firms do about 30 percent.

Mr. NEAL. I am sorry, say that again.

Mr. BOTHWELL. The seven banks do about 70 percent of the over-the-counter and the five securities firms and three insurance firms do about 30 percent.

Mr. NEAL. And then of those two, most of it is securities firms? Between the insurance and the securities firms?

Mr. BOTHWELL. The securities firms would have the larger share.

Mr. NEAL. I wasn't quite sure what you said. You did an earlier study having to do with derivatives and banks, and I wasn't quite clear as to what that study was all about.

Mr. BOWSHER. No. I think what we did was an earlier study that involved this tax question that the chairman had asked us. This is our first major study on derivatives, the one that we released in May of this year.

Mr. NEAL. I thought you had some information on what the impact of that would be on banks if banks weren't doing this kind of activity with insured deposits, but you don't really have—

Mr. BOWSHER. We don't have that, no.

Mr. NEAL. Any thoughts on that at all?

My concern is, I mean I am always amazed and quite admiring of all of the creativity that goes on in our financial system, financial markets, and I expect most of them are generally very positive and useful and so on. The real question for me usually is, what is appropriate to do with insured deposits? And with this one, I am having trouble with it. I still don't know.

How do you come down on it? Have you decided what you think is appropriate?

Mr. BOWSHER. No, we haven't. In fact, it is one of the things that we recommended in this report that ought to have further study, Mr. Neal.

Mr. NEAL. Well, you think you ought to study it further?

Mr. BOWSHER. Well, we could. We would be willing to talk to the committees about doing that.

Mr. NEAL. Would you be interested in that, Mr. Chairman?

The CHAIRMAN. Oh, yes.

Mr. NEAL. I think—I just, to tell you the truth, I just don't know what to think about it. I can see the usefulness of it, but there has already been a lot of losses in this area. Have there been any significant bank losses that you are aware of?

Mr. BOWSHER. Some banks have had some losses in the derivatives area, yes.

Mr. NEAL. I mean, I don't see how you can—it is a real profit center for banks. I mean, they have to be absolute geniuses if all they do is make money and don't have any losses. That would be a pretty rare situation. If that were the case, I think a lot more would be interested in it.

Anyway, I will keep studying it. I don't know what to think about it.

Mr. BOWSHER. OK.

Mr. NEAL. Thank you.

The CHAIRMAN. Mr. McCollum.

Mr. MCCOLLUM. Thank you, Mr. Chairman.

Mr. Bowsher, in looking at what you have said and listening to what you have said this morning, a couple of things come to mind. First of all, I suspect you, like all of us, recognize not only that these complex and important instruments are out there, these derivatives, but that they are pretty vital to the financial services community today. They are built into the system and they perform, when done correctly, a very important function.

So I don't think any of us want to disturb them, and the thrust of what you are saying is that, in essence, there is not a sufficient regulatory mechanism out there to bring the dealers into compliance with the recommendations and the guidelines that the regulators have already issued. Also, there are some problems that you note with inadequate rules of financial reporting.

Those two things stand out to me from everything else you have said. But I am not sure I have in my mind what the regulatory mechanism needs to be, in your view, that doesn't exist today.

Mr. BOWSHER. Yes.

Mr. MCCOLLUM. Could you clarify that, please?

Mr. BOWSHER. Sure. In other words, if you think about it here, this is an area that has grown very dramatically here in the last, say, 5 to 10 years, and even when the Group of Thirty did their study here, which was done under the direction of Dennis Weatherstone of the Morgan Bank, why, they did a survey and they asked some of the people, and if you look at the Group of Thirty report you basically have what those people thought was best practices.

This is the kind of—in other words, they were saying just what you said, Mr. McCollum, that that is an important part of our financial services industry today, it serves an important purpose and that, but there is risk here that we ought to handle properly and here are some of the areas we ought to be doing better on, and here is what we kind of think the Group of Thirty would be the best practice.

Then they also went on to say, we did some surveys and in some of these areas we found pretty good response; others we found that people were—maybe half the people weren't doing so well, and things like that. So I think that showed us a snapshot, you might say, at that period of time as to approximately what the situation is.

What we are saying here in your report is that it is important to determine what are the best practices, and that is such as your controls. You see, some of the institutions have told us, you have to have a risk assessment system there to control what instruments you do approve. In other words, like one institution got into trouble because their trader started to put the tickets in the drawer, didn't catch it early enough; they lost about \$100 million, they told us, and then later on they had a hard time figuring out—they fired the person—of what was in those derivatives or how to unwind it and everything like that.

This other institution says, boy, that is why you need a risk assessment system in place. So not only does the person who is creating this derivative instrument know what is in there, but somebody else knows it, understands it, and through some kind of guidelines from management says, yes, we are willing to—

Mr. MCCOLLUM. So what you are saying is that there are some broad guidelines the regulators have, but there is no one yet who has said each bank should have a risk assessment system or management system such as you just described, and that is illustrative, I suspect, of what you think maybe other—

Mr. BOWSHER. Yes. Except recently the regulatory people have put out some guidelines along these lines saying that this is what we think you should have, and they will be reviewing I am sure the banks along those guidelines. So they are starting to get to that position.

Mr. MCCOLLUM. I am just trying to figure out what we are really missing here. From what you are saying and doing it is just a matter of capping up to it, that is what it sounds like.

One last question. In Mr. Kaufman's testimony that he will be delivering to us after you have left, he has one major criticism of this proposed legislation, that it is dealing only with the commercial banking area, not with the rest of the financial institutions.

Is there a danger in pushing in, just into the banking area, some of these regulatory matters without addressing the others at the same time?

Mr. BOWSHER. No, I don't think there is a danger. I think his bigger concern is there is a danger because you don't have an overall regulatory system and structure for everybody that is playing in this. In other words, I think his point, and I would agree with his point, it is one of the things that we have in our report, that it would be better if we have an overall regulatory structure here,

that everybody had to play by the same guidelines or rules, you might say.

Mr. MCCOLLUM. From a sense of fairness and equity among the various competitors.

Mr. BOWSHER. And also safety to the overall system. Those three things.

Mr. MCCOLLUM. But he is saying, "Don't do it alone to one industry without doing it to all at the same time, it is not going to work," isn't he? I don't know that. He is going to say it himself, but what is your response to that idea.

Mr. BOWSHER. Well, my response is that they are all making moves in the right direction from what we can tell in our visits to these large dealers, and so I don't think he is saying that you would be doing damage by just doing it in one area. I think what he is saying is, I would just like to see some safety and soundness guidelines and rules here for all of the agencies—for all of the big dealers, and not just the banks.

And I think some—one of the interesting comments we are getting from overseas when we look at the overseas press on our report, and that is that many of the big central banks and some of the big bankers in Europe are saying that they see this as a weakness in the American system.

Mr. MCCOLLUM. Thank you very much.

Thank you, Mr. Chairman.

The CHAIRMAN. The time of the gentleman has expired.

We should recess, but Mr. Kennedy may not be able to come back and he is asking for 1 minute.

Mr. BOWSHER, are you all right for time? We are going to have to go and record our vote and come right back.

Mr. BOWSHER. Oh, all right.

The CHAIRMAN. Mr. Kennedy.

Mr. KENNEDY. Thank you, Mr. Chairman.

General, I was wondering, we had a lot of discussion on this committee about trying to build some firewalls between banks and other subsidies involving a whole range of activities.

Have you given any thought to whether or not there might be an ability to create a firewall between the bank and therefore the deposit insurance fund and the derivatives activities so that there would not be—if you really are concerned about the transfer of liability, whether or not we couldn't in some way make it very clear that these activities are taking place outside of the bank itself?

Mr. BOWSHER. Well, that is a situation where we think that you could build that firewall; we are never sure that that firewall will stay up in time of crisis. In other words, that is what we saw in the Continental Bank. It didn't stay up out there. And so you can try to do it, you can move the capital out and set up on a capital basis and that, and it should work, but you are just never quite sure.

Mr. KENNEDY. Mr. Chairman, I appreciate the time. I understand we have to go vote.

The CHAIRMAN. Thank you, Mr. Kennedy.

We will recess.

Mr. KENNEDY. If I might extend the discussion for one brief second. On a completely separate issue, we are marking up Eximbank

legislation tomorrow on another subcommittee of this committee. It has been proposed that we allow dual-use sales through the Eximbank to foreign nations for pieces of hardware and equipment that might be utilized for military purposes.

There are provisions that suggest that the GAO could do a report to indicate whether or not those kinds of dual-use activities involved actual military sales at some later point. Is that anything that you have given thought to, or do you feel like your organization could do such a thing?

Mr. BOWSHER. No. I think we have done that kind of work in the past. I don't know specifically. I would have to have my defense people look at it.

Mr. KENNEDY. Have you had any experience in that?

Mr. BOWSHER. Yes. We have experience in that area.

Mr. KENNEDY. Thank you very much.

[Recess.]

The CHAIRMAN. The committee will please come to order.

Mr. LaFalce.

Mr. LAFALCE. Thank you very much, Mr. Chairman. Mr. Bowsheer, you said there were seven banks that account for 90 percent of all of the banking activity, and the banking activity accounts for 70 percent of the derivative activity. Of those seven banks, how many of them have insured deposits?

Mr. BOWSHER. Oh, all of them.

Mr. LAFALCE. All of them have insured deposits?

Mr. BOWSHER. Yes.

Mr. LAFALCE. OK. Morgan, also?

Mr. BOTHWELL. Yes, yes.

Mr. LAFALCE. All right. To what extent is their activity of these seven financial institutions primarily risk management activity, to what extent is it trading for profit? Is there any way you could divide this up?

Mr. BOWSHER. We don't have that, do we? We don't have that kind of split. That is the kind of information I think that the stockholders and the government regulators and that should have available. To a certain extent, it is. Also one of the reasons is because of the accounting and the disclosure rules have not quite achieved that.

Mr. LAFALCE. OK.

Mr. BOWSHER. But I think that is one of the things down the road. Those kind of—

Mr. LAFALCE. Does Mr. Burnett want to make a ballpark guess on it?

Mr. BOWSHER. Well, let me have Mike Burnett here answer your question, if he can, to the extent that he can, because he has done more work in this area.

Mr. BURNETT. It is hard to make the distinction that you are trying to make, but as part of our survey of the major dealers, we asked what percentage of the profits were from derivatives-dealing activity, and they reported that somewhere between 10 and 25 percent of their profits were from derivatives dealing.

Mr. LAFALCE. So on average, 10 to 25 percent. OK. That is good to know that information.

Now, we have a regulatory scheme for our banks, and I think it is considerably greater than the regulatory scheme for the securities industry, surely for the insurance. I don't think we have anything for the insurance. But you are suggesting maybe it is not adequate enough, that we could have a bit more disclosure. Is that the basic thrust of your statement?

Mr. BOWSHER. That is one of them. In other words, we think the derivatives area is one of the newer areas, you might say, that has grown very dramatically, very rapidly, and we just think that you have to think through the regulators, the bank regulators, how to enhance their oversight of this area. It isn't that you shouldn't be doing more or less in any of the other areas, but this is a new area that needs some looking at. We have met with—

Mr. LAFALCE. Insofar as these seven banks that account for 70 percent of all activity, 90 percent of the banking activity, you basically have a regulatory network in place right now and we don't have to get jittery about it, correct?

Mr. BOWSHER. Well, they can move out and do it, that is right. Whereas the SEC does not have the authority to do some of this—

Mr. LAFALCE. I am most concerned about the areas where we don't have any regulation, such as insurance companies, and maybe pension funds. Could you comment on that a bit? I wonder if we shouldn't in Congress be spending most of our time in totally unregulated areas, insurance companies, and pension funds. Do you have any thoughts on that?

Mr. BOWSHER. Yes. We show on page 11 of our report the gaps in the other areas, and I will have Jim Bothwell speak to this area, because he has done most of the work. But I think you need improvements in all of the areas, and I think most of the people in the industry recognize that. But you have gaps in the other areas that are much bigger than what you have in the banking area. But let me have Jim explain it in a little more detail.

Mr. BOTHWELL. We found that there are basically three regulatory safeguards that the banks have that don't exist to the same extent for the securities firm affiliates. These are affiliates of securities firms, and they are not the broker dealers that are regulated by SEC. There are also three insurance firms affiliates that are big dealers in OTC derivatives. Basically, the SEC does not have the ability to set capital requirements for the OTC affiliates of securities firms, nor do they have the ability, as we stressed in our testimony, to go in and examine those affiliates to see if they have good risk management systems. And the insurance industry, as you may know, is State-regulated.

However, these same limitations—the lack of authority to go in and examine the OTC dealing activity of affiliates of insurance firms and the lack of authority to set capital requirements for the stock insurance companies—also exist in that industry, as well. Both the SEC and the insurance regulators can get some information from the affiliates. There was a recent piece of legislation passed, the Market Reform Act of 1990, which allowed the SEC to get information from any material affiliate that could pose a material threat to the financial condition of the broker dealer, and the SEC is moving out to try and gain some information voluntarily

under that authority. But the SEC doesn't have the authority to go in and set capital requirements or to do exams. So those are the basic regulatory gaps that exist in that part of the market.

Mr. LAFALCE. Mr. Chairman, I would like to apologize that I have to leave. The mayor of Buffalo is waiting in my office, and especially I wanted to hear both Mr. Kaufman and Mr. Rotberg, you have some excellent witnesses to follow these excellent witnesses.

Thank you.

The CHAIRMAN. Thank you. Mr. Bereuter.

Mr. BEREUTER. Thank you, Mr. Chairman.

Mr. Bowsher, I wanted to follow up on something you just touched on in response to Mr. Leach's last question. Given the global nature of financial transactions and the ability of investors to seek those opportunities in foreign financial markets, I am especially interested in regulatory efforts abroad, for example, the U.K. and Japan, to attempt to reduce the risks to sovereigns, to depositor, to others from the extensive use of these transactions. Could you elaborate on this question now or later by indicating whether our regulatory institutions are more or less restrictive in regulating these types of transactions, and whether there is a danger in the United States unilaterally or more severely regulating these transactions?

Are there efforts underway to reach any harmony or consensus internationally in the regulation of these transactions?

Could you address that series of questions, please?

Mr. BOWSHER. Yes. First, let me say that there are efforts underway by international groups to try to do some harmonization here in this whole area. Jim Bothwell, again, is quite knowledgeable about this.

Jim, if you could just summarize what—

Mr. BOTHWELL. Sure. Mr. Bereuter, the bank regulators have established international capital standards for banks that cover credit risks. However, they don't cover other forms of risks that could be associated with derivatives activities in banks. There has been, unfortunately, much less progress for setting international capital standards for securities firms.

They are working on that issue now, and I don't believe there is any progress at all for capital standards for insurance companies worldwide. Basically, most of the foreign countries that we looked at have some regulatory authority and do have the ability to go in and do examinations and also have reporting requirements of the major dealers. And, as Mr. Bowsher pointed out, in some major countries there is universal banking, where securities activity and derivatives activity and the banking activity is all in one institution, so there is one regulator, in some cases a central bank.

Mr. BEREUTER. Can you assess whether they are more restrictive in general or less restrictive than our regulation of transactions?

Do you want to do it by some of the major countries at least? I mentioned, for example, U.K. and Japan. Can you give me some balance on the scale on regulation?

Mr. BOTHWELL. Well, it is a hard question to answer, because in the United States there is no one standard, no one regulatory framework, over all of this activity. You can perhaps do some comparisons over the banks.

Mr. BEREUTER. Well, let's just assess the banks since we seem to have nothing really over insurance.

Mr. BOTHWELL. Well, in the banks, the capital standards that were set by the Bank of International Settlements and followed by most of the major countries are the same. They are minimum capital standards. Some countries can require more capital than that, and some do. We haven't done an exhaustive study of the differences. We are looking at differences in bank regulatory structures overseas right now in another set of studies.

We have recently issued one report on Germany and we are going to do one for the U.K., France, and Canada and do an overall capping report. So that could address some of this. But it would just be for the banks; it won't be for the securities or insurance company affiliates.

Mr. BEREUTER. Mr. Chairman, I have one more question, and that was whether or not there is any danger in us unilaterally and more severely regulating in certain areas in these types of financial transactions.

Mr. BOWSHER. Yes. I don't think so, Mr. Bereuter. I mean there is always some danger, but I think the thing that convinces me that we are not going to drive this business overseas is that the big institutions are concerned about this risk themselves. They are making investments in these risk management systems.

We were meeting with one of the big Midwest banks here just in the last 30 days, and they were explaining how they had centralized their operations in three or four international cities, plus their home city here in the United States, and the big thing was not only to have daily mark-to-market accounting of where they stood, but real time.

In other words, they were hoping to get the real time systems. So they are making those kinds of investments looking at a worldwide operation, you might say.

So I think that they are going to make the investments, they have made a lot of it I think already, and I think really the bank regulators and the other countries are just coming up to speed as far as the ability to assess that. Like the Bank of England is one we have been in quite good touch with here, and they are putting the special unit together to try to understand this whole area for their operations over there.

And in Germany, why, they rely upon their central bank, but also they have a bank for out of Berlin, and they also rely a little more on the CPA firms there. So they have a kind of a three-way approach of going at it. We are going to have these additional reports that I think will be helpful. We are willing to come over and brief you, too, on what we know today even before we can actually produce the reports in this area.

Mr. BEREUTER. Maybe that would be even more generally of interest here and if so, that would be—

Mr. BOWSHER. Yes. We would be pleased to do that.

Mr. BEREUTER. Thank you, Mr. Chairman. Thank you, Mr. Bowsher.

The CHAIRMAN. Mr. Watt.

Mr. WATT. Thank you, Mr. Chairman.

Mr. Bowsher, I am looking at page 188 of the GAO Report which has a listing of the banks and securities firms and insurance companies that are the 15 major U.S. participants in derivatives, and I am looking at pages 2 and 3 of your written testimony, which indicates that the top seven domestic bank derivative dealers accounted for 90 percent of the total U.S. bank derivatives activity.

There are a couple of characteristics I guess that I note about the 15 companies on page 15 that would—one of which that none of them is in my congressional district, which is kind of surprising since I have some of the major banks in America. But I guess another characteristic which I would observe is that all of these appear to be big boys playing in this market.

And I guess we could dismiss it at that, but I am a little more concerned about the other 10 percent that is not included in the 90 percent that is represented by these 15, or these top 7 banks. How many other banks in the country that we know are dealing in derivatives activities and are any of them, even though they are smaller, involved to the extent that their percentage of profits or percentage of their assets invested might each be higher than the percentage of these big guys who are participating in the activity?

Do we have any information on that?

Mr. BOWSHER. Yes, we do. There are about 900 banks that are doing some derivatives work and dealing in derivatives. That would be out of around 12,000 banks. But there are probably 200 or 250 that are into it quite a bit, you might say.

So it is probably the next 200 banks that you have to be concerned about. And it is an important point that you are bringing up, Mr. Congressman, because much of our report focuses in on the 15 major derivative dealers here. But more and more the regional banks, which I believe you represent there, have grown quite large now, and they recognize, and they have told us that in order to keep their corporate client relationships, that they have got to get into this area, and they are going into it more and more, there is just no question about it.

So I think one of the important things on the oversight here is that they, as well as these big 15, have the proper controls, the proper risk management systems, and the corporate governance and everything in place too, and that the oversight be there.

We also are watching some of the boutiques start to develop. In other words, some of the young people who have become expert in this area are breaking away from the big firms and setting up their own firms. It takes quite a bit of capital, so this isn't something that is easily done, you might say.

But you are going to see that. You are going to see more of that. And so that is one of the things that we worry about, the gap in the security affiliates not having the ability to look at that.

Mr. WATT. Let me ask two other questions and then I will stop. Is the list of at least those 200 additional banks available, is that public information?

Mr. BOTHWELL. Oh, yes.

Mr. BOWSHER. Yes, we can make that available.

Mr. WATT. All right. I would like to get a copy of that and have some idea of the extent to which these other banks that make up the other 10 percent are invested in this.

The final question I wanted to just get a quick comment on, do I understand that the existing regulatory structure, all of these regulatory bodies that we have, there is nothing in place that they can already do without additional legislation to deal with this whole area of derivatives, or is there something in place already that they could do?

Mr. BOWSHER. Yes. They can be doing more in the disclosure area, asking for information and things like that. What they can't do, as Jim pointed out, as much is in the capital area and also in the inspection or the oversight, going in to really check things out.

Mr. WATT. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Baker.

Mr. BAKER. Thank you, Mr. Chairman.

Mr. Bowsher, I agree that certainly this is a subject worthy of investigation and some apparent concern, but I do think it needs to have some boxes around it so we can categorize what is reasonable and what is unreasonable in the conduct of swaps.

First, there is a significant difference between the swap dealer's risk and the end user's risk where the end user is the one who has nowhere to go but to pay the obligation when the maturity occurs, where the dealer has a commission in the exchange of the two pieces of quid pro quo.

Beyond that, there is also an extreme difference between the notional amount and what I classify as current exposure, and that if you look toward the five, seven, nine institutions, whether they be securities or banks, and you boil down to that current exposure level, it then once again reduces the downside risk.

Looking at your report from some time back——

Mr. BOWSHER. Last May, a month ago.

Mr. BAKER. Page 77 makes this comment. We found that 97 percent of the notional amount of swaps outstanding at yearend of 1991, up from a sample of 200 firms, was held by firms with at least investment grade ratings, which to me says that the market risk inherent in those activities is minimal given the fact 97 percent—page 77, in the first paragraph. So that if we segregate dealer versus end user, notional amount versus current exposure, quality of those residual transactions, we then get to the issue of whether the end user understands the downside risk.

And the question of concentration pops up. How many people are doing this? Is it systemic, or is it limited? It appears to be, from information given, very concentrated. In most cases in business risks, that is not good. In this case, I think it might be excellent, because the 5 or 7 or 10 are very sophisticated credit risk market analysis operations. So that I don't think concentration is bad.

As to why we as a government should be concerned about this, I think the only legitimating purpose is where an institution which is regulated and has taxpayer implicit guarantees for failure puts taxpayer money at risk. If it is two private corporations, it gets difficult for me to understand why we should reach in between two parties who are negotiating the sale of a product and tell them you can't do this anymore.

What may be the most dangerous of all is a lesser sophisticated management team of a smaller institution that is financially regulated doing business as an end user with a private corporation

wherein the failure of the private corporation to timely deliver then puts the S&L in trouble which then calls on Federal funds.

In looking at the potential of that activity, I am not sure the report goes to analyzing that particular aspect of the market, but reaches rather general conclusions which says people ought to know more or look before you leap. And that it is OK to leap, as long as you understand the downside risk.

Other than that particular instance, is there anything in this study which I have missed which warrants congressional action, particularly as between two private corporations where there is no taxpayer exposure as a result of a failure of a participant to meet his obligations, and should we not limit the scope of our intervention only as to those transactions which may trigger financial liability of a taxpayer?

Mr. BOWSHER. Well, as we tried to point out in the report that derivatives are a part of a very large financial services industry today in this country and you can start to have troubles not just in derivatives, but in maybe some other part of it. I think—I don't know whether you read the article that was in the *Wall Street Journal* on May 20 which was right after we had issued this report.

But I think that article showed what had happened in the last 3 or 4 months in the various markets, especially with emphasis on what had happened in the European bonds markets and how it had forced some of the various end users to be and some of the dealers to be in difficult situations, including some of the hedge funds that went under at that time because they couldn't find markets for some of the instances that they had. So what you can have here is you can have a domino effect or a cascading effect in your financial services industry which derivatives are now a major player.

In other words, you have to recognize that they are a major player, and a lot of these different instruments and different markets are very much linked. And, therefore, I think it is important that the Congress look at the overall system of which derivatives is one of them, one part of it, you might say. And I agree with you, Mr. Congressman, the main emphasis has got to be the risk to the insured deposits or to the taxpayers or something.

We should not be in any way injecting ourselves into a business decision by two private corporations, wanting to make a hedge or a swap, you might say, that is a legitimate business transaction to hedge a currency risk or an interest rate risk or something like that. I mean we should not—that is not in any way good. The big thing is to get enough safeguards in there——

Mr. BAKER. If I may interject, I am out of time, and I just want to make one further comment.

The CHAIRMAN. The time of the gentleman has expired.

Mr. BAKER. Just that there does exist sufficient regulatory ability of the regulators today to further intervene and enhance capital reserves against the risk associated with these derivatives, where there is no such intervening capability in even securities or in insurance, or worse yet, pension funds. And that may be another day of discussion. But the bill deals with financial marketplace and their ability to withstand risk as generated by the sale of derivatives.

Thank you, Mr. Chairman.

The CHAIRMAN. The time of the gentleman has expired. We have another panel following this, and they have been waiting patiently, and one of the panelists has a time limitation. He has got to get out of here by 1 o'clock. So I urge the remaining members to be as brief as possible in questioning Mr. Bowsher.

Mr. Lazio.

Mr. DOOLEY. Mr. Chairman?

The CHAIRMAN. Oh, I beg your pardon. Mr. Dooley.

Mr. DOOLEY. Thank you, Mr. Chairman. I just would like to follow up on some of the concerns of Mr. Watt and Mr. Baker. Again, referring to page 188—when we are talking about the notional amounts that the banks and some of the security firms are involved in in terms of participation with derivatives. There also were comments made earlier trying to differentiate between derivatives or utilized for hedging purposes versus speculative purposes.

And it is difficult to differentiate between those activities within the banks now. But if one was to assume that banks were primarily utilizing OTC derivatives in order to hedge and to provide greater certainty in terms of interest rate exposures, does the notional amounts that are really recorded and provided on page 188, is that really an accurate gauge of a potential exposure? Because the exposure is just the interest rate.

Mr. BOWSHER. No. I think all the notional value does give you an indication of what the total activity is here in derivatives and the fact that it has been rising at a fairly rapid rate gives you an indication that this whole area is growing very fast. But you have to get behind those numbers to understand your risk, and that is why I said at the outset here that the notional numbers is an indication of the total activity, but not the—

Mr. DOOLEY. It really has very little bearing on any real risk. There has been some allusion to the potential of getting into the savings and loan crisis. Actually, if we had a savings and loan during the rapid increase in interest rate that was making proper use of OTC derivatives, they could have limited the exposure of taxpayers to some of the bailouts if they were utilizing derivatives to hedge; would that not be correct?

Mr. BOWSHER. Somewhat. I don't want anybody to walk away thinking that the S&L crisis would have been handled successfully if they had handled derivatives. But it could have helped some of them, no question about it.

Mr. DOOLEY. I guess my overall concern is that trying to identify what the real problem is, and I think that I would concur with a lot of people that we need to have the disclosure so that perhaps the banks, the regulatory agencies can differentiate between derivatives used for hedging purposes versus those used for speculation.

I appreciate your comments.

Mr. BOWSHER. Thank you.

The CHAIRMAN. Mr. Lazio.

Mr. LAZIO. Thank you, Mr. Chairman. I will try and keep this brief.

I, too, would like to build a framework around this so that everybody understands it, particularly because I think there has been a

great deal of misinformation with respect to derivatives, mostly by the weekly magazines, frankly. Let me begin by asking you if—I think you have probably answered this in a number of different ways, but if I could just ask you clearly, is there anything that this bill, the Gonzalez-Leach, proposes to do that bank regulators cannot now do if they so desired?

Mr. BOWSHER. A lot of it they can do if they want to move forward themselves, but it also, of course, is the same in the private sector. A lot of the private sector could move forward on many of these issues too. And I really encourage them to do that. But one of the issues that you have to be concerned about is consistency.

In other words, do you get everybody—I go back to like the Group of Thirty report where they said that some people were doing this best practice and some were doing this bad, but we didn't get everybody up to that level. And the big thing, too, is we have to verify, not only do people say they think they have done it, but have they actually done it.

Mr. LAZIO. That Group of Thirty study, by the way, isn't it true that a lot of those companies that were not in conformity were outside of the United States that were surveyed?

Mr. BOWSHER. Yes.

Mr. LAZIO. So most of the U.S. companies were in conformity?

Mr. BOWSHER. You couldn't tell.

Mr. BOTHWELL. You couldn't tell.

Mr. LAZIO. I don't have much time, so I just want to ask you one question which I think is important. On page 55 of your study, you speak to credit exposure, which I think is the most important question, not notional value which is meaningless, I think, frankly, and just scares people and doesn't help in terms of policy. When you talk about the size of the credit exposures for derivatives and loans for some of the larger money center banks, are you using gross numbers or are you using net numbers?

Mr. BOWSHER. I would like Michael Burnett to answer that question, if I could, Mr. Congressman.

Mr. BURNETT. These are the gross credit exposures.

Mr. LAZIO. So if you are not netting it out, you are not taking into account netting contracts, you are not correctly reflecting true credit exposure on the part of any of these institutions.

Mr. BURNETT. Well, we couldn't net out loan exposures either, so what we tried to do is compare apples and apples.

Mr. LAZIO. If you had a contract, if you had a netting contract where on one end you would be, you know, one of the institutions would be getting 5 apples and on the second contract getting 10 apples, of course, it would be a net wash. But if you are just counting the first situation where you are only getting the five apples and you are including that in the number, you are grossly distorting what the credit exposure is here.

Mr. BURNETT. Well, I don't think we are grossly distorting what the credit exposure is here. There are two things you need to know about these numbers.

One is, you can't find the net numbers in annual reports or anywhere else. All you have is the gross credit exposure numbers for 1992.

Now, reporting is getting better, and in 1993 it is much better. The other thing is that we asked all of the 15 major dealers about their net credit exposure versus their gross credit exposure, and 14 of them responded, but we couldn't separate out their responses because of—

Mr. LAZIO. You may not have good information, but these numbers are not accurate.

Mr. BURNETT. These numbers are gross credit exposures which are the only numbers that are available.

Mr. LAZIO. Thank you, Mr. Chairman.

Mr. BOWSHER. I might ask Jim, though, to mention one thing.

Mr. BOTHWELL. Yes. One thing I think we are not getting all that right is the assertion that the credit exposure is the biggest risk. That is not at all clear. Perhaps the much more fundamental risk is market risk. Someone made the statement that the only thing the dealers have at risk is the commission.

That is not at all true. The dealers have very large market positions that they are taking using derivatives. If the market goes against them, they have a potential to suffer very substantial losses. The losses that have been reported recently in the newspapers almost daily are not credit losses, they are market losses.

Mr. LAZIO. But even using your numbers and your report, they are less than 2 percent. It is not the notional number.

Mr. BOTHWELL. We don't have any number in our report on market risk. Market risk will depend upon the amount that you have invested, the type of products, and your portfolio. That could change dramatically in a single day. There is no way to quantify market risk in one easy measure. You can quantify credit exposure, it is about 1.8 percent of notional. Those are the numbers we have. You can't report market exposures.

Mr. LAZIO. My time is up. Thank you, Mr. Chairman.

The CHAIRMAN. Ms. Pryce.

Ms. PRYCE. I will pass.

The CHAIRMAN. Thank you. Well, Mr. Bowsher and colleagues, thank you again very much. I will have some questions sent in writing and not take up your time now. But also I will have a written request to pursue one or two matters here that were discussed earlier, and that you expressed a willingness to follow through on.

But thank you very much.

[The information referred to can be found in the appendix.]

Mr. BOWSHER. Could I just ask one other favor, Mr. Chairman?

The CHAIRMAN. Absolutely.

Mr. BOWSHER. And that is that the International Swaps and Derivatives Association put out a paper on our report. We have put out a response to that, and if I could, I would like that to be included in the record.

The CHAIRMAN. I wonder if you would give it to us and without any objection, we will place it in the record at this point.

Mr. BOWSHER. Thank you very much.

The CHAIRMAN. Both the swapper's analysis and your reply.

Mr. BOWSHER. And our reply. Thank you.

The CHAIRMAN. Thank you again.

[The information referred to can be found in the appendix.]

Mr. WATT. Mr. Chairman, could I just ask, is there another report in the works in followup to this one that would get us beyond the end of 1992, or is there something else coming down the line in followup to this one?

Mr. BOTHWELL. Mr. Watt, we have been asked by the Energy and Commerce Committee to look at sales practices and the derivatives market, so we are presently staffing up that question.

Mr. WATT. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, sir. Thank you again.

Our next panel, final panel, consists of Mr. Dennis R. Beresford, Chairman of the Financial Accounting Standards Board; and the preeminent Henry Kaufman, the president of Henry Kaufman and Co., Inc.; and Mr. Eugene H. Rotberg, former Vice President and Treasurer of the World Bank.

I am going to ask our distinguished colleague, the minority ranking member of the Housing Subcommittee, which I also chair, Mrs. Roukema, to introduce her constituent. I understand Mr. Rotberg is your constituent.

Mrs. ROUKEMA. Thank you, Mr. Chairman. I appreciate that, and I do apologize to all of those on the panel and, certainly, to the chairman. I think you know that we have been engaged in the issue of the day and, unfortunately, it is not derivatives, it is the Health Care bill in the Education and Labor Committee, so I regret that I was not here earlier.

But I do want to take this opportunity to welcome Dr. Kaufman. You have said it well, he is a preeminent authority in the field of economics and investment. He is also a specific authority on the subject of derivatives, and, even better than that, he is a constituent of mine and a valued counselor, and I appreciate his acceding to our invitation and that he appears here today.

I don't think we have to say too much about his background. He is well-known internationally, and he served for 26 years as managing director of the Research Department at Salomon Brothers and presently has his own company in New York. He has received numerous awards, and I will not go into them except to say that in 1987 he received the George Eckley prize for Excellence in Economic Writing from Columbia Business School.

The specific reason why I was prompted to request, Mr. Chairman, that Dr. Kaufman be invited today is because he has established an outstanding reputation, both nationally and internationally, as an expert lecturer on this issue of financial derivatives, and I would like to ask unanimous consent, Mr. Chairman, that the text of Dr. Kaufman's lecture, which he delivered last October to the City of London Conference on Derivatives, if that could be included in the record here today.

The CHAIRMAN. Without objection, it is so ordered.

[The information referred to can be found in the appendix.]

Mrs. ROUKEMA. Mr. Chairman, I do appreciate the courtesy of having Dr. Kaufman here and I know we will all benefit and we will be a lot wiser for his testimony. Dr. Kaufman, I thank you for appearing here today.

STATEMENT OF HENRY KAUFMAN, PRESIDENT, HENRY KAUFMAN AND CO., INC.

Mr. KAUFMAN. Well, thank you very much, Congresswoman Roukema. It is the nicest introduction I have ever had to a congressional hearing.

Mr. Chairman, I am very pleased to accept your invitation to present my views on the general topic of financial derivatives.

My fundamental starting point is that financial derivatives— forwards, futures, swaps, options, and securities embodying options—are just one part of the far-reaching structural changes in our financial markets that have been developing over the past few decades. As such, they should not be viewed in isolation. This new financial world is characterized by widespread securitization of credit; by expanding internationalization of borrowing, lending, and investing; by unprecedented volatility in the prices of financial assets; by the decline in the relative position of traditional institutional lenders and investors who tended to buy and hold; and by the emergence of what I call “hi-octane” portfolio managers who are willing to use greater leverage to achieve greater returns; and by impressive expansion of mutual funds, many of which employ derivatives directly or require securities embodying derivatives; and by a persistent blurring of the lines between different types of financial institutions.

Now, from the perspective of public policy, I have long felt that official regulators of financial institutions have been slow in coming to grips with the implications of this new financial world for the safety and soundness of the financial system. That is mainly because the present regulatory system is out of date and is not in tune with the institutional and structural changes that have taken place. It is not primarily because of financial derivatives, per se.

Now, my strongly held view is that changes in regulatory policies covering financial derivatives ought to be considered only in the context of an across-the-board review and reform of the structure of the official supervision and regulation of the financial markets and institutions.

Now, let me summarize the main points that I developed in some detail in my written document to you.

What really is new and potentially troublesome are those financial derivatives either that have changed the behavior of the underlying financial markets or that have introduced novel and not fully understood risks into the system. Financial futures on equities and government bonds meet this test, because they introduce greater symmetry in position taking. They make it just as easy to go short stocks or bonds as to go long. And they also introduce phenomenal leverage into the system and consequently complicate the measurement, monitoring, and the control of credit risks.

Interest rate swaps have also had a profound influence on the functioning of underlying credit markets. Virtually unknown a dozen years ago, interest rate swaps have mushroomed. In the process, the basic business has been learned by nearly all significant financial institutions and companies in every developed country, and quite a few emerging markets as well. Not surprisingly, profit margins in arranging simple interest rate swaps have been squeezed.

Naturally, the market has not stood still. One way to sustain profitability is to construct longer maturity swaps and forward rate agreements with less creditworthy counterparties, both of which expose dealers and eventually the markets at large to more risk.

However, the main adjustment market participants have made is to become more active in originating, packaging, and marketing a burgeoning array of financial options. They range from puts and calls on shares of individual companies, equity indexes, government bonds, bond and stock futures, currencies, and commodities, to interest rate caps, floors and collars, to a whole class of hybrid instruments combining futures, swaps, and options and to an emerging category of contingent options, where payoffs are a function of multiple conditions taking hold.

Writing over-the-counter options, particularly the more complicated ones, is a very different business from the traditional activities of a bank or a securities firm. These instruments are difficult to evaluate, particularly when the volatility of financial assets is itself so volatile.

Moreover, because originating financial options creates risks that cannot be perfectly hedged, the resulting risks normally have to be managed through a process of dynamic hedging. But this can be done only inexactly, and even then with the guidance of extraordinarily complex computerized models which themselves are not infallible. Those models are needed for several critical functions: Pricing of complex options, or securities and swaps with embedded options; identification of exposures; evaluation of positions under changing circumstances—now known to the trade as “stress testing” and portfolio risk management. But no one knows how robust the models are to unusual market developments, how they might break down and what consequences a breakdown would bring about.

Options-writing by banks, security firms, and other financial institutions is barely a decade old, so it is as yet untested by a number of difficult scenarios, most importantly, a period of extreme monetary policy stringencies.

I next want to emphasize that it is an error to ignore securitized credits in which there are embedded options or other financial derivatives. For instance, the General Accounting Office in their otherwise useful study of financial derivatives, specifically excluded such instruments from their analysis. The largest class of securitized credits are in the mortgage area, notably collateralized mortgage obligations. Because of the explicit call protection contained in a standard home mortgage, all mortgage-related securities have some option-related risks. Some CMO tranches are exceptionally sensitive to even the slightest changes in mortgage prepayment patterns and interest rate levels. They are best understood as highly leveraged financial derivatives rather than extraordinary credit instruments. And this renders them difficult to evaluate and to hedge, leads to spasms of illiquidity in the marketplace, and makes it impossible to get a valid mark-to-market quote. And this has been vividly demonstrated in the market this year.

To take this one step farther, while financial derivatives are embodied in securitized credit instruments, there is no direct mechanism for hedging the associated risks. Therefore, when pressure

arises, say, in the mortgage security sector or in the market for securitized credits of less developed countries cause liquidity to dry up in those particular markets, the pressures are bound to ricochet throughout the entire marketplace. As investors and dealers seek to protect themselves from further erosion in values, they usually turn to the most liquid markets, especially derivatives on U.S. Treasuries or Treasury futures. The inevitable consequence is increased volatility of bond prices and yields.

Now, a number of issues have been raised about the implications of rapid growth of derivatives both on individual firms and overall on the financial system. Let me briefly comment on them.

One, market-making versus proprietary trading: What is the real source of profitability in financial derivatives? No outsider really knows.

The principal market makers in financial derivatives uniformly describe their business as helping their clients meet their perceived needs for risk management products. They intimate that much of their profitability stems from fulfilling that function. Yet, they also concede that their traders take sizable positions for the institution's own account.

The issue is to what extent and how often the risk exposure taken by financial institution should be subjected to the scrutiny of agencies.

A second issue. Marking to market. Here we have limitations and considerable consequences. Marking to market is the key ingredient in the measuring and controlling risk, calculating profit and loss, and evaluating performance. Even under normal conditions, it is not a cut and dried process. In volatile markets, liquidity may suddenly disappear as many dealers withdraw from active participation. Under those circumstances, marking to market may be practically impossible for many securitized assets and derivative instruments. Why is this so?

First, the price of the last trade may be completely invalid in rapidly moving markets. Second, the price that a dealer is prepared to quote may be a little bit more than an indication of what the security or option is worth, not the price at which the dealer is prepared to trade. In a disturbed market, another dealer may quote, on that same indications-only basis, a wildly different price. For the institution trying to mark to market that position—for example, a mutual fund or a retirement fund—there is no reliable arbiter or where the “true” price is. And third, the price quoted may be invalid for trading only a small amount, and not the full amount that the investor has in its portfolio. And finally, the assumptions used by a dealer in providing a price for an existing OTC option may be highly questionable and marking to market that option position is not really verifiable with other dealers.

But an inability to mark to market undermines risk management. It raises questions about whether market participants are genuinely able to monitor all of their outstanding risk exposure. How can that be true when absolute control requires flawless marking to market and that degree of exactitude cannot be obtained when the underlying market becomes illiquid and the availability of accurate pricing evaporates.

Another issue is measurement and control of credit risk. A large portion of the risk entailed in financial derivatives stems from market exposures; that is, going long or short bonds, stocks and currencies, commodities, or something else, and being exposed to adverse movements in asset prices. But old-fashioned credit risks are not absent. Thus, continuous credit evaluation based on independent credit judgments is indispensable. The credit judgments that may matter most relate to exposures resulting from transactions with new types of organizations, such as leverage funds, for which conventional credit ratings are inapplicable, or with subsidiaries of nonfinancial corporations which may have a complex and not entirely unambiguous relationship with the parent.

A fourth issue concerns the proper role of corporate treasury function. The proper role of a corporate treasury function of a non-financial corporation has long been debated. All must be able to accomplish multiple tasks: Overseeing the company's balance sheet; arranging new financing; managing cash-flows; and protecting against sudden drops in income. These conventional financial activities can sometimes be carried out more effectively by making prudent use of financial derivatives.

What is at issue is whether the corporate treasury function should be treated as a profit center, with the mandate to trade securities, currencies, and derivatives dynamically, in order to enhance the corporation's overall rate of return.

A fifth issue is financial reporting and disclosure. Concerns about financial derivatives might be allayed by more sunshine on the size of the markets and the type of exposure being carried. But the data now available falls short of what is needed.

And sixth, there is the question of, do derivatives lessen or accentuate the financial cycle? Proponents of derivatives tend to argue that derivatives don't create or diminish risk in the aggregate. My view is that financial derivatives do have a net impact on the functioning of the credit system, and it is not necessarily felicitous. They permit greater leverage in the system, and thus pose a real challenge for the conduct of monetary policy. That is because instruments such as interest rate swaps, like the earlier innovations of floating rate financing, enable a marginal credit to stay in the market longer than would otherwise be the case. This ultimately prolongs the upswing of the cycle. When economic activity eventually ebbs, the downward adjustment is all the more abrupt and disruptive. Since the typical payer of a fixed rate in the interest rate swap is ordinarily the weaker credit, it does not get the benefit of the subsequent decline in short-term rates that cushions the impact for the floating rate borrower. So monetary policy needs to be more accommodative for a longer period, which could tend to exaggerate the amplitude of the cycle.

Now, I want to briefly turn to the specific provisions of H.R. 4503 and make just a few quick comments. I was happy to see that a number of these provisions of the bill closely parallel some of the recommendations that I have made in the past years. For example, one provision rightly asks regulators to work together to establish principles and standards relating to such matters as capital, accounting, and disclosure.

Another provision invites regulators to consider what additional data they need to meet their responsibilities.

Now, the major reason why I part company with the bill is its narrow focus. It does not deal with the fundamental point that the problem for the financial system is not derivatives, per se, but the sweeping changes in the structure of financial institutions and markets that have made our overall system a financial supervision and regulation obsolete. Therefore, truly beneficial initiatives for reform must go beyond dealing with the expansion of derivatives activity by depository institutions and confront every aspect of market and institutional changes.

In previous congressional testimony and elsewhere, I have made a number of proposals for better aligning official financial supervision and regulation to the new financial world. My recommendations can be briefly summarized as follows.

First, since the new financial structure cuts across traditional institution demarcations, we need to bring together banking, securities, and insurance regulators so that they can reach an agreement on standards—accounting standards, disclosure standards, and trading standards. International harmonization is also required, so that currently large differences from country to country can be reduced.

Second, regulatory coverage must be extended to those financial institutions that are now effectively unregulated, such as finance companies.

Third, securitization needs to be brought explicitly under the regulatory system.

Fourth, further work is needed in the area of capital standards. We still lack a common approach to evaluating market risks and the risks associated with off-balance sheet activities.

Fifth, as consolidation of financial institutions proceeds, it is inevitable that there will be a need to have international agreements on the investment powers of universal banks and the potential for undesirable conflicts of interest as more financial institutions play the dual roles of lender and shareholder.

And sixth, these and many other issues that flow from the greater internationalization and complexity of finance cannot be dealt with without an ongoing institutional capacity. I have long believed that the most promising approach would be to constitute a new international institution, consisting of central bank, other governmental, and private sector representatives, to serve as the focal point for a necessary regulatory harmonization.

So while I applaud the high objectives of H.R. 4503, I cannot support the bill in its entirety, because its narrow focus on depository institutions does not correspond with the marketplace that is now quickly evolving.

Therefore, Mr. Chairman, I would like to propose that the Congress and the administration jointly establish a national commission on the financial system to conduct a thorough examination of the changes in the structure of financial institutions and markets and the implications for the legal and regulatory framework under which financial institutions and markets should operate in the 21st century. This commission should be comprised of Members of Congress, senior administration officials, current and former regulatory

officials, and participants in the private financial markets. It should be charged to work together with similar groups in other major industrial countries with multinational financial institutions and the private sector.

There may be other mechanisms to bring about a comprehensive overhaul of the financial regulatory structure, and they also should be considered. But, Mr. Chairman, I worry about the consequences of delay: More volatility in the value of financial assets—

The CHAIRMAN. Mr. Kaufman, will you yield to me? Pardon the interruption. We have about 2 minutes to record a vote. We will be right back as soon as we record the vote. There will be another vote right after, but that is a 5-minute.

[The prepared statement of Mr. Kaufman can be found in the appendix.]

[Recess.]

The CHAIRMAN. The committee will please come to order.

The reason I came back was to check with our distinguished panelists, some of whom, like Mr. Rotberg, I know has a time factor, and I know that 1 o'clock was supposed to be your limit. Here is the problem. We have what never is anticipated in the legislative process, and we have some unpredicted developments with the Appropriation bill that the House is considering, so we can expect another vote signal in about 10 minutes.

What I wanted to do was extend the courtesy to the panelists who have been very patient and most helpful to this committee to ascertain exactly what your constraints are as to time. I know Mr. Rotberg had originally 1 o'clock and he has been kind enough to extend that, so if there is no objection, Mr. Beresford, why don't we recognize Mr. Rotberg first?

STATEMENT OF EUGENE H. ROTBERG, FORMER VICE PRESIDENT AND TREASURER, WORLD BANK

Mr. ROTBERG. Thank you very much, Mr. Chairman. I will not take more than 10 minutes.

My name is Eugene Rotberg. First, let me express my appreciation for being asked to testify with respect to matters dealing with the derivatives markets. And I ask to be incorporated into this record remarks I gave recently to the National Association of Corporate Treasurers entitled "The Only Perfect Hedge is in a Japanese Garden."

The CHAIRMAN. Certainly. Without objection, it will be placed in the record.

[The information referred to can be found in the appendix.]

Mr. ROTBERG. Thank you. For purposes here, let me just try to focus on why this subject matter has caused a lot of stress and why it is likely to continue to do so. I believe it is a peculiar combination of five unique and potentially dangerous circumstances, and indeed they may explain in part and answer some questions which were already raised: Why is this business different from all other businesses?

First, derivatives simply can be used to leverage risk, interest rate risk, currency risk, share prices, without putting up a lot of money. Perhaps as much as 100-to-1. That is a difference. That simply means that during a period of volatility, losses or gains are

magnified potentially manifold. And the leverage may be asymmetric. That means that the potential gains might be limited, while the losses can be multiples of the maximum gain.

Second, current accounting conventions currently mask error, risk, and mistakes. They have not been designed, understandably, as risk management tools. They have tax consequences, which may be one of the reasons why it has been so difficult to establish a comprehensive set of conventions for accounting purposes which can also be used for risk management. But I am sure my friends at the FASB will comment more on that.

But the underlying truth is, as Henry Kaufman indicated, generally there are a lot of derivatives which are not mark to market. Some are unmarkable. We don't know their value; their value is unknowable. In certain transactions, mistakes can be hidden because accounting conventions don't record them. There is, therefore, too often, not enough reality testing.

We pretend that a rolling loan gathers no loss. We pretend that if a triggering event occurs in a different time period, the loss can be delayed, and when losses can be delayed, greater risks are taken.

The third aspect which makes derivatives different: Senior managers are rarely as informed as their traders, and legislation is not likely to make them so. Senior management is typically unaware of the technical operations of financial engineers. Worse, they are often afraid to ask.

And I think we must admit to the fact that there is a good deal of underlying hostility to financial superstars, to mathematicians, and to physicists. Senior management often believes that these financial engineers are too young, they are too smart, they are too overpaid, they have too much control, they know what to hide, too often they know how to hide it. And management is not up to nor trained in the intricacies of convexity or volatility.

The net result is obvious. Reports are inadequate and supervision is thin. And worse, most of us have great difficulty in admitting the simple truth that often those who report to us know more than we do. That is a recipe for potential disaster and that also makes derivatives different.

In the "Group of Thirty" study, however, there is some good news. Fifty-seven percent of senior managers had serious or some concern over their own risk management systems, 71 percent had serious or some concern over the complexity of the instruments in their firm, 89 percent over illiquidity.

Fourth: Many products, and this has been touched on by other witnesses and commentators this morning and elsewhere, particularly over-the-counter derivatives and aspects of the mortgaged-backed market are idiosyncratic, ad hoc, unpublicized, illiquid. And I will at the end of my comments briefly tell how that could affect S&Ls in every single constituency of the members of this committee. That means that those illiquid instruments are difficult, if not impossible, to price or value. It means if these instruments have been held as collateral, there may be no buyers in the event of a forced sale, or the spread between the buyer and seller could be so wide—that is what Dr. Kaufman referred to as uncertain pricing—that even a hedge is ineffective. It means that a dealer who holds

such instruments may have to sell to protect itself instead, say, by selling plain vanilla U.S. Government bonds in very large amounts to protect itself, and that is precisely what has happened in the last month. That complicates Federal Reserve responsibilities, because the illiquid instruments that they were holding were unsalable and they had to sell U.S. Government bonds to protect themselves.

Fifth and finally, the relationship between the banker and the other side of the transaction is typically unclear at best and possibly adversarial.

We have heard a lot of talk this morning about "concentration." There are only 13 dealers with 80-90 percent of the business. Three insurance companies, five securities firms, and five banks. And, therefore, there is a rather manageable "problem." To the contrary, they are the sellers of the derivatives. The buyers are in every single county represented by every Congressman sitting on this committee and every committee in this House. That is who is taking the risk, not just the intermediaries, but also the end users.

Whatever that responsibility is, to clarify that relationship between the banker-dealer or securities dealer and the end user to talk about stress modeling, one thing is sure, the end user rarely asks. It should.

Eight years ago, in September 1984, I gave a speech entitled, "Be on Guard in the Glittery World of Financial Innovation." I wrote 8 years ago as follows: Quote: "Many new instruments have developed because of peer pressure; they are poorly priced with little academic or market rationale. Most innovations have uncertain economic benefit—they typically involve a sharing of unknown risks for unknown benefit at a price which is simply market clearing. There is also a herd instinct by intermediaries, issuers, and investors. There is competitive pressure to simply execute the latest instrument for a client or to create the next one, whether or not it makes sense.

"Senior managers and their regulators will find it a challenge, to say the least, to find out what is going on and whether it makes sense. But, unfortunately, I suspect, wisdom ex post will likely be measured by an accounting convention." Unquote.

Little has changed since then.

Sigmund Freud would have been a wonderful witness at this hearing. He would have explained the use of derivatives as denial and rationalization. We pretend that we are doing one thing when we all know that we mean to be doing precisely the opposite and something else. He would have said that the relationship between the banker and its client is one of ambivalence and reliance on the father figure banker. He would have said that the use of accounting conventions is essentially repression and the absence of reality testing. The work environment is the pain/pleasure principle, take the benefit now, for future damage, let someone else later pick up the pieces; leveraging and doubling our bets, which is endemic in the derivatives markets, as an example of counterphobic behavior; termination therapy, that is what happens when the CFO and the treasurer get caught. And, of course, transference, how the trader seeks to shift responsibility to his or her supervisor when the string finally runs out.

I have some comments with respect to H.R. 4503. They are in my written comments and you will see them there, and I won't repeat them here.

That brings me to my last point, and to my mind, the most important point I am going to make this morning. Frankly, I think we have had enough essays, surveys, studies, green books, Basle guidelines, newspaper articles, international studies about credit risks, market risk, basis risk, legal risk, event risk, operational risk. They are all fine studies and so will be the future ones, whether they are mandated by legislation or done voluntarily. But, frankly, they all read like a cross between a graduate school thesis at best, and a public policy consultant's think-piece.

We are writing essays without really knowing, in a systematic fashion, how the market works. We need far more precise day-to-day market information on who does what, how is it financed, to whom is the instrument sold, how does a banker or dealer pass on its risks, how is leverage actually accomplished; what is an embedded option?

The time is now, I suggest, for a special study, under oath, with subpoena power, conducted independently, reporting directly to this Congress, with such commentary by the Federal Reserve, the Treasury, the Comptroller of the Currency, the SEC, the CFTC, the FASB, and anybody else who would like to comment on the ultimate analysis and conclusions of the study.

The current Chairman of the SEC and the Chairwoman-designate of the CFTC should designate a director of the study and then let that director staff the study with SEC people, Fed people, Comptroller of the Currency people, CFTC people, and as many experts who are in the market as they can, with subpoena power.

Frankly, I do not believe we will find out how the market really works without such a study.

Why subpoena power? Let me remind this committee that at the time of the Salomon Brothers affair, almost 3 years ago, which had many of the elements which are the subject matter of this hearing, no securities firm would voluntarily testify before that committee about their operations in the REPO or government securities market. That hearing was just on how they operate their government bond market and financed their positions. Nor will they do so frankly and fully about derivatives in response to a letter from the Secretary of the Treasury or the Chairman of the Federal Reserve. They will under oath, and that is the way, I believe, to develop a body of knowledge in this particular area at this time.

The alternative, frankly, is to rely on grand juries, SEC investigations after the fact, class action lawsuits, and surveys.

I can only repeat the same recommendation that I made 3 years ago at the time of this Salomon Brothers matter. Only this time I thought that I would do something else. I will simply note in conclusion, by way of example, five specific matters, almost chosen at random, which in fact have not yet been publicized, which you have not yet read in the newspaper, but which are indicative of what we do not know about, except in a very superficial and uncoordinated fashion.

One, U.S. Federal agencies, Fannie Mae and Freddie Mac, issue structured finance paper in which the agency understandably ob-

tains a lower cost than "straight vanilla" bond issues. But somewhere down the line, after the agency has hedged its risk in a perfectly appropriate manner, a small, rather unsophisticated S&L usually in the South or a pension fund, the buyer of the paper, in return for a temporary pickup in yield, may end up with a zero rate of return over time if interest rates in the United States rise, because of an embedded option in that paper which works to the buyer's disadvantage. That is what S&Ls are buying now.

What is the issuer's responsibility? What is the banker's responsibility? What is the instrument's liquidity? In my view, S&Ls will yet again be at risk. While there is no real credit risk, the issuer is AAA loan. These are exempt securities, in fact, under the Securities Acts. There is a lot of asymmetrical market risk. It is leveraged market risk and it is taken by institutions whose deposits are guaranteed by Federal authority. While they are not putting credit sensitive paper on their books, they are putting on complex and illiquid products whose value sharply erodes in response to changes in interest rates.

Second: The effects of illiquid collateral, particularly in the mortgaged-backed market, and its effect on the U.S. straight bond market, something that Dr. Kaufman alluded to, when small changes in interest rates are magnified when the collateral can't be sold, and when you can't sell the collateral, the government bond market absorbs the selling pressure.

Third, equity swap positions of commercial banks. To what extent are commercial banks now, through the use of derivative products, taking substantial positions in stock markets domestically and/or in foreign stock markets with a currency risk?

Fourth—

The CHAIRMAN. Mr. Rotberg, I am almost sure this is a 5-minute vote so I will have about 1 minute to get over there, and we will be right back.

Mr. ROTBERG. OK.

[Vote recess.]

The CHAIRMAN. The committee will come to order.

And again, we apologize very much for these interruptions.

Mr. Rotberg.

Mr. ROTBERG. Shall I continue?

The CHAIRMAN. Yes, sir.

Mr. ROTBERG. Thank you.

I was on the third point of matters which I believe, by way of example, needed independent study under subpoena power. Equity swap positions of commercial banks. To what extent are banks, through the use of derivative products, taking substantial positions in the stock markets domestically and/or in foreign stock markets in other countries with explicit currency risk? How does it show up in their reports? Is this the kind of risk that they are permitted to take, or should be taking when it occurs off balance sheet with the use of a complex hybrid derivative product?

Fourth, the practice and implications of end-of-month or quarterly cleaning up of the derivative portfolios in order to avoid disclosure.

Fifth, the use of derivatives in the foreign exchange markets and its implications for public policy, government intervention, and the maintenance of stable exchange rates.

The fact is that it was derivative products and the leveraging last September which enabled the private sector to put tremendous pressure on the French franc, the Italian lire, and British sterling. It is not to say that it was good, bad, legal, or illegal; the point is that no regulatory agency knew *ex ante* exactly how it was done, the way it is done, how it is financed, who is doing it. They should know it. Then they can make informed public policy decisions.

These matters, in short, these five issues by way of example, get too close to the edge of propriety or legality to expect voluntary disclosure to form letters. Does this all mean that there is a great systemic risk? Probably not. Does it mean that bigger corporations or banks are likely to tumble in the domino effect? No. Will some be badly hurt? Yes. Are some S&Ls, particularly smaller ones, security dealers, and some corporations taking imprudent risks? Yes.

It means mostly, though, that regulators are not up to date because they do not have up-to-date quality information about what goes on in the market. And when they do get the information, it is, as we have seen, after the fact, it is *ad hoc*, it is usually in a criminal investigatory setting, that rarely predicts the next financial crisis, and it is in my view not the way to make wise public policy.

Thank you.

[The prepared statement of Mr. Rotberg can be found in the appendix.]

The CHAIRMAN. Thank you very much, Mr. Rotberg, and above all, for your patience.

Mr. Beresford.

STATEMENT OF DENNIS R. BERESFORD, CHAIRMAN, FINANCIAL ACCOUNTING STANDARDS BOARD

Mr. BERESFORD. Thank you, Mr. Chairman.

My name is Denny Beresford. I am the Chairman of the Financial Accounting Standards Board. With me today is Halsey Bullen, who is a project manager on our technical staff. Mr. Bullen has been involved with our project on accounting for financial instruments since we began work on it several years ago. He also participated in the Group of Thirty work.

We have provided the committee with a detailed submission in response to the questions that were raised in your June 13 letter. Our detailed submission also summarizes the accounting and disclosure problems posed by derivative financial instruments as well as the history of our broad project on financial instruments, and in these remarks I would like to touch on some key points from the detailed submission.

The FASB has been working on accounting for financial instruments as a formal project since 1986. We studied the problem for some time before that. Our emerging issues task force, that was formed in 1984 largely to respond quickly to narrow issues in areas in which the Board has not yet issued broad standards, has addressed well over 100 issues involving accounting for financial instruments and financial institutions.

Much of the information about derivative financial instruments now in the hands of financial statements users is a direct result of accounting standards we issued in 1990 and 1991.

Our discussion memorandums and research reports are recognized around the world as the best and most comprehensive materials available on the accounting implications of financial instruments. We meet regularly with our counterparts in other countries and with the International Accounting Standards Committee who have followed our lead and are now wrestling with these same issues.

Much has been said recently about how accounting standards have failed to keep pace with the challenges presented by new and innovative financial instruments. You have heard that several times today. We acknowledge that and we have been striving to meet those challenges. But we will always be a bit behind.

It is the nature of our role that we learn about new and innovative financial instruments after they have been designed and implemented. It is the nature of our own due process procedures that changes in accounting standards occur only after thorough deliberation, which sometimes takes longer than we would like. On balance, however, our very careful due process results in better and better accepted standards with fewer unintended consequences, and I wouldn't change it.

I also would observe that there are few unanimous views about the right response to the accounting challenge of innovative financial instruments. Throughout the process, some organizations, like the Securities and Exchange Commission and the General Accounting Office, that you heard from earlier today, have chided us to move faster. But almost every step we have taken has prompted vociferous opposition. A small sample of that opposition is included in our written submission.

Our recent exposure draft on disclosure about derivative financial instruments grew out of a widening gap between businesses' increasing use of derivatives on one hand and financial instrument users' lack of understanding of those instruments on the other. Even sophisticated financial statement users have described themselves as confounded or mystified.

Obviously, no one profits from that situation. Financial statement users who can't understand what a company is doing tend to paint sound business practices and wild speculation with the same brush.

Our own review revealed that disclosures are less informative than what we had hoped. In December 1993, we decided that further improvements to our existing standards were necessary, sooner rather than later. Our current exposure draft is an attempt to demystify the way businesses use derivative financial instruments and to improve some existing disclosures.

We believe that it is important to include these disclosures in 1994 annual financial statements, at least for larger institutions. Meeting that goal constrains us from proposing requirements that would take us longer to develop and take institutions longer to adopt.

For derivative instruments held or issued for trading, our exposure draft would require disclosure of quantitative information

about average, maximum, and minimum aggregate fair values and of net trading gains and losses.

For derivative instruments held or issued for risk management or other purposes, our exposure draft would extend and clarify the quantitative information already disclosed, require descriptive information about the entity's purposes for using derivatives, and require information about how the entity accounts for derivative instruments.

Our exposure draft would encourage, but not require, quantitative information about interest rate and other market risks of derivative financial instruments, and other assets and liabilities, that is consistent with the way the entity manages or adjusts risks.

Your letter also asked that we comment on the merits of requiring fair value reporting of derivative financial instruments. Financial reporting includes both recording amounts in financial statements and disclosing additional information in footnotes to those financial statements, and accountants look at those two issues separately.

Financial statement footnotes already include considerable information about the fair value of those instruments, as required by FASB statement No. 107, "Disclosures about fair value of financial instruments." Improving that disclosure is one of the objectives of our current exposure draft.

The General Accounting Office and others have urged us to consider a broader use of fair value to measure amounts recognized on the balance sheet as opposed to only disclosing that information in footnotes. Many financial instruments, including some derivative instruments, are already accounted for at fair value.

Our written submission describes the conceptual and practical difficulties, as well as the vocal opposition, involved in a broader application of fair value on the balance sheet.

Messrs. Kaufman and Rotberg referred to just a few of the difficulties in their testimony earlier.

As a practical matter, the question is not whether to use fair value, but rather which assets and which liabilities should be reported at fair value and in which circumstances. Financial statements currently are based on an approach in which some assets are measured at fair value, some at historical cost, and some at the lower of the two. Broader use of fair value for amounts recognized on the balance sheet will inevitably be a consideration in every financial instrument issue that we consider. But a comprehensive system based on fair value accounting is not likely in the near future.

The Board currently is considering a number of approaches that would address both the accounting for derivatives and hedge accounting. All of those approaches would require reporting derivative financial instruments at fair value.

In recent months, we have been exploring a promising approach that would begin by recognizing all derivative instruments and measuring them in balance sheets at their fair values, as the General Accounting Office recommends. However, it would produce different income statement effects than the method recommended by the GAO.

Our Board is continuing to discuss the details of this proposal. We had a meeting just yesterday to go over some of the details. And while several knotty problems remain to be resolved, we hope to issue an exposure draft on this accounting issue by the end of 1994.

Your letter also asks that we provide our views on H.R. 4503. Our principal responsibility is setting standards for accounting and reporting in general-purpose external financial reporting to investors, creditors, and others. That reporting sometimes differs from the reports that insured financial institutions are required to file with Federal banking, credit union, or other agencies, which are the main subject of the bill, although the two reporting areas are related and the trend has been to reduce the differences.

We are hesitant to make recommendations about regulatory accounting and reporting matters because that is not our jurisdiction, and it is not an area in which we have special competence. But I do offer one suggestion.

Many of the specific disclosures in the bill resemble existing and proposed FASB requirements and we have no reason to question their current relevance. However, we are concerned that establishing such specific disclosures in a statute is unlikely to stand the test of time.

Our disclosure exposure draft is in the midst of a comment period. It is virtually certain, based on our experience, that we will make at least some changes before a final statement is issued.

Furthermore, the derivatives market continues to evolve at a rapid pace, with new instruments and new twists on old instruments appearing constantly. What was once important information is no longer important, and vice versa.

One recent problem illustrates our point. The bill would require disclosure of gross notional values of each class of derivative. That provides some information about the extent of price risk an entity faces from its derivatives, and it mirrors an existing FASB requirement that our exposure draft would extend to all derivatives.

But the price risks of a new type of instrument that has emerged in recent weeks would not be fully revealed by such requirements. That instrument is a "leveraged swap" or "structured note" of modest notional principal but with multipliers that give it the price risk of an instrument with 10 or even 100 times the notional principal amount.

With that kind of problem in mind, we suggest that you consider in your bill a more general set of requirements that convey your concerns but leave room for regulators to adapt to changing conditions.

In conclusion, let me outline some important steps that we expect to take in the coming months. First, we plan to issue an accounting standard on disclosures about derivatives in the fall after we have received and evaluated comment letters on our current exposure draft.

Second, we are hopeful that we will issue a second exposure draft on hedge accounting and an accounting for derivative financial instruments by the end of this year.

And third, we continue to work with our counterparts in other countries as they, too, struggle with the accounting challenges of innovative financial instruments.

Mr. Chairman, that completes my prepared remarks. We would be pleased to answer any questions that you have at this time.

[The prepared statement of Mr. Beresford can be found in the appendix.]

The CHAIRMAN. Thank you very much.

I had asked unanimous consent that all members have an opportunity to submit in writing some questions to all of the witnesses, including yourself. And they have indicated that to me, and I might have one or two followup questions.

Mr. BERESFORD. We would be pleased to respond.

The CHAIRMAN. I want to thank you and Mr. Bullen very much, and certainly above all for your patience.

Mr. BERESFORD. Our process takes a long time too, so we are usually very patient.

The CHAIRMAN. Well, I can appreciate that, and I know full well. I am particularly associated with your activity and your Standards Board because back in the late 1960's—I had been here about 6 or 7 years, and I don't know how it came across—well, by reading, including this derivatives where the then renegotiation board which had been defanged by the Congress in successive Congresses had reached the point where the effort was going to be made to abolish it that year; I think it was 1967. I then wanted to know where it was located, and I found out it was on L Street.

It had been initiated during the Truman administration. One of the promoters of it was Chairman Vincent of the Armed Services Committee, because it was the meager attempt made after the war to control, quote, unquote, "war profiteering" or, in the polite term, "excess profits."

And we went over and discovered this obscure building in a little hideaway on L Street consisting of the director at that time, plus no more than three employees. Yet, they gave me the report in which they had been able to bring into the Treasury that previous year over \$40 million. But it was obvious that that was a smithereen, and that this had become, with the high level of procurement on the Federal level that we had entered into because of Vietnam, which I had brought out. It was reaching a point where it was going to impact on every phase of our economy, including the soft underbelly of it, prime materials like copper, steel, and labor.

And I wrote a letter to President Johnson at that time, and he bucked it over to somebody in Treasury and I never could make much headway. But lo and behold, I went out and made some speeches on the House floor and said I was going to fight to preserve the life; I was going to offer an amendment to extend it. The thing that was surprising was that it was under the jurisdiction of the Ways and Means Committee by that time. When I talked to the chairman, Wilbur Mills, he didn't even know that they had it. He wasn't even aware.

He said, well, I don't know. He said, it looks to me like this is something that should have been abolished anyway.

So literally a brand new fellow at that time, why it didn't look like I would have much of a chance. When, lo and behold, I had a call from Admiral Rickover, and he met with me on his request and he explained that he was fighting the fight as the naval procurement officer, and that he was getting sick and tired of sitting across the table from these big single-source manufacturers, such as submarine nuclear reactors, and that all of a sudden they would come out and say, well, we have to have 25 percent more. And they couldn't base it on any reasonable figuring.

So he said, it is a numbers game, and I am surprised you would be independent. So we joined forces and we raised Cain and with his help, we saved the life of the renegotiation board for 2 years.

Then another 2 years came up and we had to fight again, but in the meanwhile we interested the then Comptroller General and also a Member of the Senate, Senator Proxmire. And finally between the three of us we finally had the GAO and we set up your predecessor, the National Uniform Accounting Standards Board, which is a predecessor of this one.

And then, of course, in 1979 the space defense military complex was very powerful, and they finally did us in. And it was strange because they did us in over on the Senate side, and by that time Senator Proxmire had reached the conclusion that unless we could get a real viable board, we ought not have anything, and I thought it was wrong.

But the main thing is and the big ado was that finally we had some basis upon which men like Admiral Rickover could have a basis of estimate of the range of allowable profit, and accounting standards that they couldn't deviate from. Up to then it was what he called a numbers game.

So I am very sensitive, and I am very proud of what has been done by the Board and I know that banks are not members of the Federal Reserve System. Of course, they are insured depositories and recently were contacting me and railing about the standards imposed, they erroneously thought, by the Federal Reserve. When I explained to them, no, this was a private agreement among the industry and it was FASB that was setting the standards, they couldn't understand where that came from and why were they mandated. And in this case, though, I readily appreciate the dimensions of the problem.

I think that General Bowsher, who has been most forward-looking and most responsible in the case of the banking laws that we had to restructure in 1989, and couldn't quite meet his recommendation then. It took us 2 years before we finally came up with followup statutory amendments. But it is at the core of the matter, because what I have said is that bank profits have really been accounting artifacts or artifacts of accounting, and nowhere is it better illustrated than in this question of the off-balance sheet activities in the high-risk areas, which this would reflect these activities. And which I warned about 2 years ago in the record, and we had our first hearing on this last year.

On October 20, we couldn't get much interest, and the reason for it was that we were trying to ascertain just how much of an exposure—I recited, and in fact I obtained the facts and the figures of all places, not with the Federal Reserve, they wouldn't do it, but

from the security bankers, some of the principal firms. They had good records of what the 8 largest banks in our country or more, maybe more than 10, where 1 of them had 1,750 percent over their capitalization structure involvement in that off-balance sheet activity, which you could say ranged from, in all the forms of derivative activities you can identify. Nobody seemed to be interested.

That exposure ranged from this one, one of the biggest, 1,750 down to about 300 percent. The fact is that nobody brought that out. I noticed one of the Congressmen was saying, well, you know, you have reserves. No, you don't. There are no reserves against the off-balance sheet activities. That is the danger. That is the exposure, that is the most present and clear danger as I see it, as far as insured depository institutions. Because that is where I am coming from.

Now, it is very difficult, even with Mr. Kaufman, to explain to him that as desirable as his holistic approach is, we are limited. That is why we are going into banking. He says, well, I think your bill is great except that it is too narrow because it just affects the banking issues.

Well, that is all we really have proper jurisdiction over. If we go into securities and the related activity, that is over in another committee. And however, unlike the Senate, the Senate Banking Committee doesn't have that kind of a constrictor. It can have jurisdiction almost on any subject matter. In our case, if anything comes up and it involves a tax, we have to refer to the Ways and Means Committee. If it has to do with enforcement involving culpability standards and the like, it goes to the Judiciary Committee.

And so we are restricted, and we are doing it with the knowledge that the biggest responsibility the committee has is the safety and soundness of our banking and financial system. And that is where I try to come from. It is paramount that we do have the accounting standards that will give us the measurement. Of course, it is.

I realize, though, how difficult it is. We are living in a world in which you have got a new kind of finance, a new kind of money. We have abstract money involved in all of this. You can call it abstract money; I also call it megabyte money. And throughout the whole world you have, I would say, an incalculable number of individuals, all the way from Pakistan to the Middle East that all they have to have is a computer, a modem and then get a line of credit, maybe not more than \$100,000, and they are in the game. And they can in an instant get involved in these vary volatile areas.

So that if our insured depository institutions are, and the fact is it can't be denied that they are, then we have a clear, a clear message that we have a responsibility to discharge here and we need the assistance of individuals and organizations such as the one you head. We live in a day and time when this is not only abstract money—in fact, even the stock market, who should have known since 1987, one very prominent individual just recently estimated that out of every \$1,000 invested in the stock market, only \$1 was involved in nonspeculative activity.

Now, that means we are going back to pre-1932, and for whatever reason, there again it was obvious before 1987, in fact, by 1979. I said so, again, in Special Orders on the House floor, that we had gotten back into an equation that we had all of the factors

that we had before 1932, and that you were getting a lot of bank credit or finances involved and that in the stock market they had gotten around the big reform of 1932, the margin requirements, and that involved in it heavily was bank financing.

Now, I didn't have a time—we had the constriction of time with Mr. Rotberg and with Mr. Kaufman, but Mr. Rotberg was very observant, very perspicacious, and noted that banks were involved. Well, it is really a little bit more complicated than that, and it happened right through the processes in this Congress.

When we were legislating on the committee level, on what turned out to be the FIRREA [Financial Institutions Reform, Recovery and Enforcement Act], we had a Member here, the gentleman from Minnesota, who offered an amendment. When I looked at it and then analyzed it, I said, you mean you want the Federal Reserve to give a line of credit to security bankers or security firms that are regulated by SEC? Well, he withdrew it. So, lo and behold, we thought we had taken care of that.

When we got to a Member that involved this situation, we have to deal with the other body and then get them together in a conference to resolve differences, but the other body can come out with a jillion nongermane amendments to the basic banking legislation, which then, if brought over here, means that we would have to refer to at least 12 other committees.

So after we go through reducing it to purely banking issues, we had an all-night deliberation. I think it was October 28, 1991. And this amendment was slipped in there through the Senate at the last minute. We were in that conference from one afternoon until 5 o'clock the next day. And I wanted to cut it off, but the leadership wanted to adjourn.

So after its passage, we discovered the presence of this amendment, which now means that the Federal Reserve Board has offered and has approved lines of credit to Wall Street entrepreneurs and gamblers. And this is the reason why.

On the other hand, we are confronted with what I think is a very serious dilemma when the Chairman of the Federal Reserve Board will tell the congressional committee over in the other committee that we better get ready to be prepared to backstop, he said, these gambling failures on the part of banks. Well, the only way you can interpret that is through the taxpayers' guarantees or insurance.

On top of that, I have a copy of the report of the remarks made by Chairman Greenspan on May 9 on the occasion of the dedication of a chair over in Iowa and the Wartburg College in Waverly, Iowa, and he says, these instruments, talking about derivatives, are vehicles for implementing arbitrage strategies that reach across national borders to link cash markets throughout the world. With these tight links in place, a financial shock can be transmitted far more rapidly than in generations past.

Then again, the recent volatility and worldwide markets, Mr. Greenspan said, of considerable stress has quote, "severely tested the risk management systems created to support derivative activity," end of quote. But yet, at the same time he insists that we shouldn't touch legislation concerning this issue. So those of us are left with no choice but to go on ahead and do what we can from a level which we should anyway.

I have sat on this committee for 32½ years. And what happened since then, all of the lamentable things that happened at great cost not only in money to the taxpayers, but in the instability created in our financial markets, which instability is an enemy of sound finance. That is the system again inaugurated in 1971 and which I did not vote for, that is the followup legislation that brought us the floating exchange system.

We have had witnesses appear before us saying lately that we reached a point where that has to be changed. That is fine. It is easier said than done. But that means floating, also instability, and that is what I said then in 1971. And finance money is an enemy of instability. Money seeks stability.

And what we have now, \$14 trillion or so involved in this almost indefinable velocity of the market, and with the great potential that it can be susceptible to the persons or person who can manipulate more than ever because the damage can be done instantaneously, in a matter of the speed of light actually.

And so I think what is happening out there in our real world, in our constituency, and it is hurting. This idea that our idea is well off is mischievous. It is advanced by people like ourselves that are comfortable and well paid and who have no fear of what we are going to do next week to pay for the groceries or the rent, or the kids' issues, but the people out there are. And I see it. And I witness it, and it hurts.

It hurts to see 36- to 38-year-olds—young individuals, not necessarily minorities, college educated, who are not able to find a job for 2 years, and their unemployment compensation exhausted. Now that hurts. It hurts me. And it seems that I am in a world where there seems to be no awareness of it.

And I hear all of these experts talking about how well the economy is doing. Well, it isn't. It is an illusion. And how we will have to meet it and under what circumstances is what bothers me.

All other things that happen, I started to say, were not acts of God. We were saying in 1966, June 19, when the prime interest rate was jacked up 1 whole percent point overnight, and immediately the Savings & Loans from Texas were calling up and coming up. In fact, they came up to visit my then-chairman from Texas, Mr. Pepper, saying, hey, what are we going to do? This knocks out our regulation Q margin that enables us to stay in business.

Well, between 1966 and 1982 there seemed to be no awareness. Somehow, though, in 1982 we came out with the bill and it was sold on the basis that it was going to save the savings and loans industry. I was the lone person of this committee that went against it and the only one that went to the Rules Committee to talk against it, with the chairman of the committee cursing me behind my back, because it was far from just a device. It had such things, as I pointed out to the Rules Committee, as phrases that I thought were peculiar, such as regulatory accounting standards. And, again, the reason is that I was sensitive to accounting standards, going back to the—so the rest is history.

But it wasn't ordained by God. And it was foreseen. So there were some who spoke out, like now. And in fact I think that when you pick up today's paper and you read that the value of the dollar

has somehow or other stabilized, which isn't true, and how it is hides the basic and most troubling fact of all, which again I haven't been able to get any interest on this level.

Four and a half years ago I mentioned to Chairman Greenspan that I was concerned that it wouldn't take much to replace the dollar as the international currency reserve unit. Two or three billion of national bankers said the same thing. Oh, not in the foreseeable future, and even then it would take a tremendous instability and disorder in our country.

But they couldn't answer the question I was asking. And that was that we were piling up for the first time in 1985, since 1914 a debt that made us a debtor nation. And also the value of the dollar had lost—in fact, by now it is over 15 percent, as in relation to the yen or the Deutschmark. And it continues to. No nation in history has ever long endured that without devaluing its currency and the consequences of it.

The thing that I fail to convey, the reason for my concern with Mr. Greenspan was that by that time the governmental debt—in fact, during that same period of time and between 1985 and by the time Mr. Reagan left office, it had grown to a little under \$4 trillion, from less than \$1 trillion. But so did corporate debt and so did the debt among us in the country.

And my point is that if the dollar is replaced, and I couldn't see why, if some of the principal industrial countries got together, pooled their reserves, designated, or nationalized the currency, which they are fast doing in Europe, why it wouldn't replace the dollar. The question was, so what? Well, "so what" is that for the first time in our history all of this debt will have to be paid back in somebody else's currency. That is what that means.

And when I see these noises about yesterday—Oh, the dollar has slid so fast that the Fed might have to raise interest rates. But the Fed has been saying that it raised interest rates because it anticipates inflation. We have been saying that that wasn't so, that ever since Chairman Paul Volcker—and he admitted it right here in this committee when I asked him a question about it years ago—the Fed has lost control, because we now are subject to forces external to our shores, over which we now no longer have any control.

And when Treasury bond—10-year bonds 3 years ago were being held for less than 1 month. If that doesn't reflect an overheated and dangerous situation, I don't know what does. So I just had to let this out.

You know, you have been so kind, and so patient that I had to try to convey how important your testimony was to this committee, whether it is recognized that way or not. Generally, it is. It is vital.

And it certainly isn't the intention—I know speaking for myself and I am sure Mr. Leach, who incidentally had a far more stronger version on regulatory control of these activities than my version, and we compromised and I had a softer version realizing there were certain limitations, but there are not the least of which is being able to get a measure or a standard, a standard to measure for accounting. But he is obviously sensitive to the perils out there and has responded very well.

So I don't know that we have the timespan. I think we have already been caught—I hope I am wrong, as I have been all along,

hoping I was dead wrong, but I think we have been overcome by time, and events, and the fact that we in the least—some of our leaders have gone on the theory that some of our friends will take care of us.

I don't know of any national leader in any other country that feels that way in discharging his responsibilities in behalf of his people. But we have and we are going on the theory that our friends will help us take care of us. And it isn't going to happen, and the only thing I know is what can be done by way of anticipatory, which is what I was saying in 1966, and I say angered, because Chairman Patman did get upset with me when I suggested that the savings and loan industry on two counts was in serious need of reform.

One was that the State-chartered institutions that would get insured by FSLIC were contributing nothing to that fund and were being chartered with the loosest standards possible, and I gave my own State as an example. I had been the chairman of the Banking Committee, such as it was, in the State Senate in the late 1950's and 1960.

So I felt that it was very tenuous that there were no interest rate controls in our country, and that anything could happen. But in 1966 why nobody would have made a \$1 bet that interest rates would ever go to 7 percent. I never dreamed there would be such a thing as 20 and 21 percent as in 1979 and 1980.

But it was obvious that when you had the same entity chartering as we did on the Federal level, chartering and insuring, and I made the mistake of saying, Mr. Chairman, unlike the Banking System, I said, you know, the Banking System at least has FDIC, it doesn't charter, the OCC charters, and that is when he got angry with me, because he was a big champion of the S&Ls and was very, very antagonistic to banking in general.

So I felt at the time that absent controls, given the tenuous situation of long-term, fixed, 30-year mortgages based on controlled interest rates, low yield, and the only thing that enabled was that 1 percent or so regulation Q, and things kind of leveled off, like it seems they have here in the last year, 2 years, and illusory and deceptive. Because by the middle 1970's we had not only one, but about four money menus. One of them was the RITS. Everybody forget about the State Investment Trust and the scandals that attached to them. But again, things leveled off and everybody thought we are going to keep on making the money we have made.

So what I am desperately hoping—you say that you will have a report in December or a study?

Mr. BERESFORD. We will issue a final statement on enhanced disclosure about derivative financial instruments in the fall of this year that will be effective for larger organizations for calendar yearend 1994 reporting. So the next set of annual reports of larger entities will reflect the information that we are proposing now.

The CHAIRMAN. Now, you mentioned, I believe, that you had—was it last December you had a report or a study? Did I misinterpret?

Mr. BERESFORD. I am not sure what you are referring to. Last yearend we did issue some suggestions that companies could consider in making voluntary disclosures. We weren't in a position be-

cause of our due process procedures to adopt any new requirements at that time.

The CHAIRMAN. That is right, OK.

Mr. BERESFORD. But we did issue, it was widely circulated a report that made some suggestions, and there were considerable improvements that were made in 1993 annual reports by larger banks. In fact, many of the statistics that have been quoted here today and otherwise are based on information that is already in the annual reports, in part because of existing standards and in part because of encouragement.

The CHAIRMAN. Well, I sure do want to compliment you. And we would appreciate any interim conclusions or interim reports you might feel would be of interest, and associated with our endeavors to shape some legislation.

General Bowsher indicated in his testimony that one of the troubling things was the lack of examination standards available to the regulators, and we were going to follow through and ask them to, in writing, to refine a little bit on that. So I think this is the heart of the matter and I would be grateful for any information that you might think would be of impact to us in our deliberations.

Mr. BERESFORD. We will think about it. And we appreciate very much your inviting us to be here, and we wish you well.

[The information referred to can be found in the appendix.]

The CHAIRMAN. Well, thank you very much. I don't know if Mr. Bullen has a statement to make or an observation.

Mr. BULLEN. No. Just here in case any questions arose.

The CHAIRMAN. All right. Well, thank you very much, sir. And I apologize for the occurrences today, but it was one of those things that nobody could foresee. We have been on this Appropriation bill since yesterday, and nobody could see that here at the last minute you had these parliamentary endeavors.

Mr. BERESFORD. It is not necessarily a bad thing to not have a lot of nasty questions.

The CHAIRMAN. I don't think you would have had nasty questions.

Mr. BERESFORD. Thank you.

The CHAIRMAN. Some of the members really want to be here, but they were involved in this Appropriation bill.

Mr. BERESFORD. If there are followup questions, we would be delighted to come back and meet with members individually.

The CHAIRMAN. Very good. We might be able to do that and have a briefing.

Mr. BERESFORD. Thank you.

The CHAIRMAN. Thank you again very much for your patience.

The committee will stand adjourned until further call of the Chair.

[Whereupon, at 2:35 p.m., the hearing was adjourned, subject to the call of Chair.]

APPENDIX

June 23, 1994

Opening Statement of Henry B. Gonzalez, Chairman
Committee on Banking, Finance and Urban Affairs

Hearing on H.R. 4503, "The Derivatives Safety
and Soundness Supervision Act of 1994."

June 23, 1994

TODAY WITNESSES WILL PROVIDE COMMENTS ON H.R. 4503, THE BIPARTISAN DERIVATIVES LEGISLATION I INTRODUCED, CALLED "THE DERIVATIVES SAFETY AND SOUNDNESS SUPERVISION ACT OF 1994." I AM CONVINCED THAT THE COMMITTEE SHOULD CONTINUE TO PRESS FORWARD ON THIS TOPIC DESPITE ASSURANCES BY BANK REGULATORS AND THE INDUSTRY THAT THEY ARE ADDRESSING THIS POTENTIAL PROBLEM.

THE BANKING INDUSTRY AND THE BANK REGULATORY AGENCIES CLAIM LEGISLATION TO CONTROL DERIVATIVES IS NOT NEEDED. THESE ARE THE SAME INDUSTRY PLAYERS AND REGULATORS THAT BROUGHT US SIMILARLY HYPED ENDEAVORS SUCH AS LOANS TO LESSER DEVELOPED COUNTRIES, HIGHLY LEVERAGED TRANSACTIONS AND MASSIVE REAL ESTATE LOANS, WHICH COLLECTIVELY RESULTED IN THE LOSS OF HUNDREDS OF BILLIONS OF DOLLARS IN SOURED LOANS. THOSE SERIOUS MISTAKES IN JUDGEMENT JEOPARDIZED THE FINANCIAL HEALTH OF THE BANKING INDUSTRY AND ITS INSURANCE FUND AND PLACED THE TAXPAYERS IN HARMS WAY. AS CHAIRMAN OF THE BANKING COMMITTEE, I AM COMMITTED TO TAKING THE STEPS NECESSARY TO ENSURE THAT THE SAME CATASTROPHE DOES NOT OCCUR WITH DERIVATIVES. AS POLICY MAKERS WE SHOULD LISTEN TO WHAT THE INDUSTRY AND THE REGULATORS HAVE TO SAY, BUT HISTORY TEACHES US WE SHOULD NOT BLINDLY FOLLOW THEIR ADVICE.

NEVERTHELESS, THE REGULATORS ARE TO BE COMMENDED FOR THE STRIDES THEY HAVE TAKEN IN ADDRESSING THE RISKS POSED BY DERIVATIVES, BUT MORE NEEDS TO BE DONE TO CURB EXCESS SPECULATION.

ON A DAILY BASIS THE BIG BANKS ARE PLACING BILLIONS OF TAXPAYER-BACKED DEPOSITS AT RISK BY SPECULATING WITH DERIVATIVES. AS AN INDICATOR OF HOW PERVASIVE SPECULATION HAS BECOME, A BANK OF ENGLAND OFFICIAL RECENTLY STATED THAT SOME 20 CENTRAL BANKS CURRENTLY USE DERIVATIVES TO ENGAGE IN SPECULATION IN THE GOLD MARKET. I AM ABSOLUTELY OPPOSED TO BANKS USING DEPOSIT INSURANCE TO SUPPORT MASSIVE SPECULATION AND I AM ALSO OPPOSED TO CENTRAL BANKS USING DERIVATIVES TO SPECULATE IN GOLD OR ANY OTHER MARKET. WE MUST SEEK TO CURB EXCESS SPECULATION AND I AM CONCERNED THAT THE BANK REGULATORS, IN PARTICULAR CHAIRMAN GREENSPAN AT THE FEDERAL RESERVE, HAVE NOT TAKEN ADEQUATE STEPS TO CURB EXCESS SPECULATION.

IT IS THE RESPONSIBILITY OF THE CONGRESS TO ENSURE THAT THE BANK REGULATORS HAVE SUFFICIENT GUIDANCE AND AUTHORITY TO DEAL WITH THE SYSTEMATIC AND OPERATIONAL RISKS POSED BY BANK DERIVATIVES ACTIVITIES. THE PROVISIONS OF H.R. 4503 ADDRESS OUR RESPONSIBILITY IN A TIMELY FASHION.

FIRST QUARTER DERIVATIVES LOSSES BY THE BIG BANKS, MONEY MARKET FUNDS AND THE DERIVATIVES-RELATED LOSSES INCURRED BY PROCTOR & GAMBLE AND OTHER INDUSTRIAL FIRMS INDICATES THAT WE ARE NOT OUT OF THE WOODS ON DERIVATIVES. AND THE RECENT REVELATION THAT THE BANK OF AMERICA HAD TO BAIL OUT AN AFFILIATED MONEY MARKET MUTUAL FUND BECAUSE OF DERIVATIVES LOSSES AT THE FUND RAISE QUESTIONS ABOUT THE ADEQUACY OF THE REGULATORY OVERSIGHT, ESPECIALLY AS RELATED TO BANK AFFILIATED MUTUAL FUNDS.

THE GAO REPORT ON DERIVATIVES RAISES MANY OF THE SAME CONCERNS I HAVE EXPRESSED OVER THE PAST SEVERAL YEARS. THE REPORT PROVIDES USEFUL INSIGHTS INTO THE RISKS POSED BY DERIVATIVES. THE

GAO IS SUPPORTIVE OF MANY OF THE CONCEPTS IN H.R. 4503 AND WE LOOK FORWARD TO HEARING MORE ABOUT THE RESULTS OF THEIR WORK.

THE FINANCIAL ACCOUNTING STANDARDS BOARD (FASB) IS ALSO SUPPORTIVE OF CERTAIN CONCEPTS IN H.R. 4503, AND THEY ARE TO BE COMMENDED FOR THEIR DRAFT PROPOSAL WHICH GRAPPLES WITH THE DIFFICULT DISCLOSURE ISSUES RAISED BY DERIVATIVES. I ALSO WANT TO THANK MR. KAUFMAN AND MR. ROTBERG FOR PRESENTING THEIR VIEWS ON DERIVATIVES. FINALLY, I WANT TO THANK SENATOR DORGAN FOR HIS TIME AND THOUGHTFUL COMMENTS. THESE WITNESSES HAVE GREAT INSIGHTS AND I LOOK FORWARD TO THEIR COMMENTS.

STATEMENT OF THE HON. JAMES A. LEACH
HOUSE BANKING COMMITTEE
HEARING ON DERIVATIVES
JUNE 23, 1994

Thank you, Mr. Chairman. I would like to commend you for having this hearing today, and would like to recognize the notable panel of witnesses who have each contributed in their own way to the discussion of derivatives regulation.

I would first like to welcome our distinguished Colleague, Senator Dorgan, to the House side today, and commend him for his efforts on this issue. Senator Dorgan introduced the first piece of legislation on derivatives in the Senate.

I also look forward to the testimony of GAO Chairman Bowsher. The GAO's Report on Financial Derivatives, released in mid-May, is the result of an exhaustive and detailed research effort aimed at evaluating the financial derivatives markets, and represents a critical step in providing well-needed, adequate oversight of the financial derivatives markets.

The principal findings of the Report are consistent with the report the minority of the Banking Committee issued last fall and the legislation I introduced on the subject this past January. Such findings include: 1) that derivatives risk management requires public as well as corporate oversight; 2) that regulatory gaps heighten systemic risk; 3) that accounting principles for derivatives have not kept pace with business practices; and 4) that the protection of internationally linked financial systems requires coordinated international efforts. The report also highlighted that current capital standards are inadequate for financial institutions engaged in derivatives activities.

Of particular import is the GAO conclusion that development of consistent cross-industry standards requires that the currently unregulated OTC derivatives activities of securities firms and insurance company affiliates should be placed under the purview of one or more of the existing federal financial regulators. Such a provision was included in the minority legislation, but, due to jurisdictional concerns, is not currently included in the bill recently introduced Chairman Gonzalez and me. As the S&L debacle evidenced, money has a tendency to flow disproportionately to institutions with the lowest standards. Corporate entities not required to meet commonsense standards that others might be required to meet have competitive advantages and pose a particular hazard to the proper and efficient functioning of the markets.

Much importance has been placed on the recent FASB exposure draft on derivatives disclosure, and certain provisions included in the bill introduced by Chairman Gonzalez and me directly parallel a number of these FASB proposals. Enhanced disclosure of derivatives activities is important for market transparency, and advances the general awareness of derivatives holdings by those parties affected by them. Of particular note in the FASB statement is that derivative instruments held for trading would be distinguished in disclosure from those held for other purposes, such as hedging. The line between legitimate hedging and other activities, such as speculation, is becoming increasingly difficult to sort out, and disclosures toward this end would be helpful. Parts of the derivatives game are played in such a way that there can be losers as well as winners; and if there is a traumatic event, virtually all players can become entwined in a lose-lose, rather than a win-win, scenario.

Finally, the opinions of the other panelists are highly regarded. I am particularly taken by the observation of Mr. Rotberg, that being that "the only perfect hedge is in a Japanese garden."

In addition to discussing the derivatives proposals of the witnesses before us today, we are also here to discuss H.R. 4503. H.R. 4503 represents a joint effort between the majority and the minority to establish clear lines of supervisory accountability for federally insured financial institutions, and is an important and timely step in preventing what could be a significant disruption in the world financial system. Since the introduction of the minority's derivatives bill in January, H.R. 3748, numerous press accounts have reported over 16 separate events where U.S. companies have suffered significant losses related to derivatives. In fact, just since the introduction of H.R. 4503 on May 25th, substantial losses have been reported at mutual funds and other money market funds; namely, the Piper Jaffray Mutual Fund, PaineWebber Bond Mutual Fund, Zweig Cash Fund, and CS First Boston Institutional Money Market Fund.

Such losses have heightened the awareness of derivatives risk and, more particularly, suitability risk in both the regulatory community and the industry itself. It is our responsibility in Congress to fully examine such issues, and where appropriate, act in a prudent way. H.R. 4503 is designed to be of a framework nature, positing standard setting within relevant professional bodies such as the Federal Reserve board, rather than Congress. The regulators who have testified before this Committee have not trivialized the derivatives issue, and even speculator George Soros

expressed concern to this Committee about the proliferation of derivatives and noted that under certain circumstances, such instruments may pose a threat to the markets and the banking system.

In addition to our legislation, however, it is important that other relevant Committees address the regulatory gaps outlined in the GAO report and elsewhere in order to ensure a level playing field. Given that one of the lessons of the S&L debacle is that money flows to the least regulated, it is crucial that cross-industry and cross-border standards be established.

Derivatives are innovative, customer-driven new additions to the financial landscape and it is key that the market be allowed to flower. It is also clear the garden should not be despoiled. In this context, Mr. Chairman, I am hopeful that the industry, Congress, and the regulators can continue to work together on this issue, and I look forward to today's testimony.

STATEMENT OF THE HONORABLE SPENCER T. BACHUS, III
BEFORE THE HOUSE BANKING COMMITTEE
THURSDAY, JUNE 23, 1994

Mr. Chairman,

I thank you for holding this hearing and our expert witnesses for agreeing to appear. I hope this is the first of several hearings on this topic.

Often times, topics of the complexity and importance of derivatives are overlooked. Important, in that the new and emerging derivatives industry, a worldwide market, has soared well past the \$12 trillion mark. Complex, certainly so to Congress, but less so for Wall Street and when complexity is discussed, let us not confuse it with riskiness. Some have said that without new legislation derivatives could be the financial disaster of the 1990's requiring a taxpayer bailout in excess of the savings and loan industry of the 1980's. I disagree. The likelihood of a major financial disaster is always present. However, the use of derivatives, in my opinion, will lessen, and not increase the likelihood of such an event. On the other hand, singling out derivatives for more and special legislation does increase the likelihood of such a disaster.

If we educate ourselves now on the benefits and possible risks of various types of derivatives, we can more clearly identify abusers and misusers of this important financial tool.

Using the term "derivatives" to define all of the various financial contracts under the umbrella is much like using the term "fast food" to describe anything from a cheeseburger to a burrito.

We should not rush into enacting legislation that may unnecessarily stifle the derivatives industry and cause the financial crisis we want to prevent. There may be a place for disclosure. We may need to better enforce existing regulations. But certainly, understanding this \$16 trillion industry before making dramatic changes is critical.

I am looking forward to this and future opportunities to learn more about the industry and the various uses of derivatives.

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(202) 225-4247

The Honorable Charles Bowsher
 Comptroller General of the United States
 441 G St. NW
 Washington, D.C. 20548

Dear Mr. Bowsher:

The Committee on Banking, Finance and Urban Affairs will hold a hearing on Thursday, June 23, 1994, to consider the General Accounting Office's (GAO) recent report, Financial Derivatives: Actions Needed to Protect the Financial System, and H.R. 4503, the "Derivatives Safety and Soundness Supervision Act of 1994." The Committee respectfully requests that you or your designee testify at this hearing and present your analysis of the report and the bill.

I commend you and your colleagues at the GAO for producing an excellent report on the risks posed by derivatives. The report also contains thoughtful recommendations to contain those risks. I was heartened to find that many of the recommendations in the area of banking are supportive of provisions contained in the bill, particularly on the subjects of increased disclosure, improved supervision, and stronger international cooperation.

The hearing is scheduled to begin at 10:00 a.m. in Room 2128, Rayburn House Office Building. In accordance with Committee rules, please deliver 200 copies of your prepared statement by 10:00 a.m., June 22, 1994. Your entire written statement will be included in the hearing record and will be made available to all Committee members in advance of your appearance.

Thank you for your cooperation. The Committee looks forward to your testimony.

Sincerely,

Henry B. Gonzalez
 Henry B. Gonzalez
 Chairman

HBG:jr

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The Honorable Byron L. Dorgan
 U.S. Senate
 713 Hart Senate Office Building
 Washington, D.C. 20510

Dear Senator *Byron* Dorgan:

The Committee on Banking, Finance and Urban Affairs will hold a hearing on Thursday, June 23, 1994, to consider H.R. 4503, the "Derivatives Safety and Soundness Supervision Act of 1994." Because of your work in the Senate on derivatives, the Committee respectfully requests that you testify at this hearing and present your analysis of the bill.

As you know, this legislation would provide for increased disclosure, improved supervision, and stronger international coordination of derivatives regulation and supervision. The Committee would greatly appreciate hearing your views and recommendations in these areas. The Committee would also be interested in any other comments you would like to make on the subject of regulation and supervision of bank derivatives activities.

The hearing is scheduled to begin at 10:00 a.m. in Room 2128, Rayburn House Office Building. In accordance with Committee rules, please deliver 200 copies of your prepared statement by 10:00 a.m., June 22, 1994. Your entire written statement will be included in the hearing record and will be made available to all Committee members in advance of your appearance.

Thank you for your cooperation. The Committee looks forward to your testimony.

Sincerely,

Henry B. Gonzalez
 Henry B. Gonzalez
 Chairman

HBG:jr

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Mr. Dennis R. Beresford, Chairman
 Financial Accounting Standards Board
 401 Merritt 7
 P.O. Box 5116
 Norwalk, CT 06856-5116

Dear Mr. Beresford:

The Committee on Banking, Finance and Urban Affairs will hold a hearing on Thursday, June 23, 1994, to consider H.R. 4503, the "Derivatives Safety and Soundness Supervision Act of 1994." The Committee is also interested in learning more about the Financial Accounting Standards Board's (FASB) recent Exposure Draft, "Disclosures about Derivative Financial Instruments and Fair Value of Financial Instruments." The Committee respectfully requests that you or your designee testify at this hearing.

I commend FASB for producing the Exposure Draft because I believe that it represents an important step in improving disclosure of off-balance-sheet activities. As you may have noticed, many of the disclosure concepts contained in the bill parallel proposals in the Exposure Draft. At the hearing, the Committee requests that you summarize your disclosure proposals, with particular attention to the merits of requiring fair value reporting of derivative financial instruments. The Committee also requests that you provide your views on H.R. 4503.

The hearing is scheduled to begin at 10:00 a.m. in Room 2128, Rayburn House Office Building. In accordance with Committee rules, please deliver 200 copies of your prepared statement by 10:00 a.m., June 22, 1994. Your entire written statement will be included in the hearing record and will be made available to all Committee members in advance of your appearance.

Thank you for your cooperation. The Committee looks forward to your testimony.

Sincerely,

Henry B. Gonzalez
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 Chairman

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June 15, 1994

Mr. Henry Kaufman
 Henry Kaufman & Company, Inc.
 65 East 55th Street, 26th Floor
 New York, NY 10022

Dear Mr. Kaufman:

The Committee on Banking, Finance and Urban Affairs will hold a hearing on Thursday, June 23, 1994, to consider H.R. 4503, the "Derivatives Safety and Soundness Supervision Act of 1994." The Committee respectfully requests that you testify at this hearing and present your analysis of the bill.

As you know, this legislation would provide for increased disclosure, improved supervision, and stronger international coordination of derivatives regulation and supervision. The Committee would greatly appreciate hearing your views and recommendations in these areas. The Committee would also be interested in any other comments you would like to make on the subject of regulation and supervision of bank derivatives activities.

The hearing is scheduled to begin at 10:00 a.m. in Room 2128, Rayburn House Office Building. In accordance with Committee rules, please deliver 200 copies of your prepared statement by 10:00 a.m., June 22, 1994. Your entire written statement will be included in the hearing record and will be made available to all Committee members in advance of your appearance.

Thank you for your cooperation. The Committee looks forward to your testimony.

Sincerely,

Henry B. Gonzalez
 Henry B. Gonzalez
 Chairman

HBG:jr

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 (202) 225-4247

Mr. Eugene H. Rotberg
 3050 K Street, N.W.
 Suite 320
 Washington, D.C. 20007

Dear Mr. Rotberg:

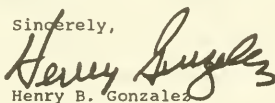
The Committee on Banking, Finance and Urban Affairs will hold a hearing on Thursday, June 23, 1994, to consider H.R. 4503, the "Derivatives Safety and Soundness Supervision Act of 1994." The Committee respectfully requests that you testify at this hearing and present your analysis of the bill.

As you know, this legislation would provide for increased disclosure, improved supervision, and stronger international coordination of derivatives regulation and supervision. The Committee would greatly appreciate hearing your views and recommendations in these areas. The Committee would also be interested in any other comments you would like to make on the subject of regulation and supervision of bank derivatives activities.

The hearing is scheduled to begin at 10:00 a.m. in Room 2128, Rayburn House Office Building. In accordance with Committee rules, please deliver 200 copies of your prepared statement by 10:00 a.m., June 22, 1994. Your entire written statement will be included in the hearing record and will be made available to all Committee members in advance of your appearance.

Thank you for your cooperation. The Committee looks forward to your testimony.

Sincerely,


 Henry B. Gonzalez
 Chairman

HBG:jr

United States General Accounting Office

GAO

Testimony

Before the Committee on Banking, Finance and Urban Affairs
House of Representatives

For Release on Delivery
Expected at
10:00 a.m., EDT
Thursday
June 23, 1994

FINANCIAL DERIVATIVES

Actions Needed to Protect the Financial System

Statement of Charles A. Bowsher
Comptroller General of the United States



GAO/T-GGD-94-170

Mr. Chairman and Members of the Committee:

We are pleased to appear today to discuss federal oversight of derivatives activities. Last month, we issued our derivatives report which was prepared in response to the requests of this committee and others. In my testimony today, I will briefly summarize our major conclusions and recommendations, provide our views on H.R. 4503, and then answer any questions you or the other members may have.

In the past 2 decades, fundamental changes in global financial markets--particularly the increased volatility of interest rates and currency exchange rates--prompted a number of public and private institutions to develop and use derivatives. Derivatives use was accelerated by the continuing globalization of commerce and financial markets and major advances in finance, information processing, and communications technology.

Derivatives are financial products whose values are based on the value of an underlying asset, reference rate, or index. We focused on four basic types of derivatives: forwards, futures, options, and swaps. These basic products can also be combined to create more complex derivatives. Some derivatives are standardized contracts traded on exchanges. Others are customized contracts that include negotiated terms, such as amounts, payment timing, and interest or currency rates. When contracts are not traded on an exchange, they are called over-the-counter (OTC) derivatives.

Derivatives serve important functions in the global financial marketplace. Among their benefits, derivatives provide end-users with opportunities to better manage financial risks associated with their business transactions, which is called hedging. They also provide opportunities to profit from anticipated movements in market prices or rates, which is called speculating. Derivatives activities had grown to at least \$12 trillion in notional amount by the end of 1992. This growth and the increasing complexity of derivatives reflect both the increased demand from end-users for better ways to manage their financial risks and the innovative capacity of the financial services industry to respond to market demands.

Because of derivatives growth and increasing complexity, Congress, federal regulators, and some members of the industry are concerned about the risks derivatives may pose to the financial system, individual firms, investors, and U.S. taxpayers. These concerns have been heightened by recent reports of substantial losses by some derivatives end-users, including losses totaling in the hundreds of millions of dollars by U.S. firms. The largest recent loss reported was by a German firm that involved assistance of more than \$2 billion from about 120 banks.

We found that much OTC derivatives activity in the United States is concentrated among 15 major U.S. dealers that are extensively linked to one another, end-users, and the exchange-traded markets.

For example, as of December 1992, the top seven domestic bank OTC derivatives dealers accounted for more than 90 percent of total U.S. bank derivatives activity. Similarly, regulatory data indicate that the top five U.S. securities firms dealing in OTC derivatives accounted for about 87 percent of total derivatives activity for all U.S. securities firms. Substantial linkages also exist between these major U.S. derivatives dealers and foreign derivatives dealers. For example, 14 major U.S. OTC derivatives dealers reported to us that transactions with foreign dealers represented an average of about 24 percent of their combined derivatives notional amounts.

This combination of global involvement, concentration, and linkages means that the sudden failure or abrupt withdrawal from trading of any of these large U.S. dealers could cause liquidity problems in the markets and could also pose risks to the others, including federally insured banks and the financial system as a whole. Although the federal government would not necessarily intervene just to keep a major OTC derivatives dealer from failing, the federal government would be likely to intervene to keep the financial system functioning in cases of severe financial stress. While federal regulators have often been able to keep financial disruptions from becoming crises, in some cases intervention has and could result in a financial bailout paid for or guaranteed by taxpayers.

Primary responsibility for effective management of a firms' financial risks rests with boards of directors and senior management. A system of strong corporate governance, such as that required under the FDIC Improvement Act for large banks and thrifts, is particularly critical for managing derivatives activities, because they can affect the financial well-being of the entire firm. Until recently, however, no comprehensive guidelines existed against which boards and senior managers could measure their firms' risk-management performance. In 1993 a Group of Thirty-sponsored study identified improvements that were needed in derivatives risk-management and recommended benchmark practices for the industry. The Office of the Comptroller of the Currency and the Federal Reserve also issued guidelines for the banks they oversee.

Regulators and market participants said improvements in risk-management systems have already been made as a result of the Group of Thirty recommendations and federal guidelines. However, we noted that no regulatory mechanism exists to bring all major dealers into compliance with these recommendations and guidelines. Further, while actions the major dealers have reported taking are important, the federal government also has responsibility for ensuring that safeguards exist to protect the overall financial system.

Federal regulators have begun to address derivatives activities through a variety of means, but significant gaps and weaknesses exist in the regulation of many major dealers. For example, securities regulators have limited authority to regulate the financial activities of securities firm affiliates that conduct OTC derivatives activities. Insurance companies' OTC derivatives affiliates are subject to limited state regulation and have no federal oversight. Yet OTC derivatives affiliates of securities and insurance firms constitute a rapidly growing component of the derivatives markets. The growth rate of OTC and exchange-traded derivatives was 100 percent for insurance firms and 77 percent for securities firms, compared with 41 percent for banks, from 1990 through 1992. In contrast to insurance and securities regulators, bank regulators have authority to supervise all the financial activities of banks and their holding companies. While these regulators have improved their supervision of banks' derivatives activities, their approach still has weaknesses, such as inadequate regulatory reporting requirements and insufficient documentation and testing of internal controls and systems.

Further compounding the regulators' problems and contributing to the lack of knowledge by investors, creditors, and other market participants are the inadequate rules for financial reporting of derivatives activity. We found that accounting standards for derivatives, particularly those used for hedging purposes by end-users, were incomplete and inconsistent and have not kept pace with

business practices. We also found that additional disclosures are needed to provide a clear distinction between dealing, speculative, and hedging activities, and to quantify interest rate and other market risks. Insufficient accounting rules and disclosure for derivatives increase the likelihood that financial reports will not fairly represent the substance and risk of these complex activities. In addition, the lack of rules for certain products makes it likely that accounting for these products will be inconsistent, thereby greatly reducing the comparability of financial reports.

We believe that innovation and creativity are strengths of the U.S. financial services industry and that these strengths should not be eroded or forced outside the United States by excessive regulation. However, we also believe the regulatory gaps and weaknesses that presently exist must be addressed, especially considering the rapid growth in derivatives activity. The issue is one of striking a proper balance between (1) allowing the U.S. financial services industry to grow and innovate and (2) protecting the safety and soundness of the nation's financial system. Achieving this balance will require unprecedented cooperation among U.S. and foreign regulators, market participants, and members of the accounting profession.

Given the gaps and weaknesses that impede regulatory preparedness for dealing with a financial crisis associated with derivatives, we

recommend that Congress require federal regulation of the safety and soundness of all major U.S. OTC derivatives dealers. The immediate need is for Congress to bring the currently unregulated OTC derivatives activities of securities and insurance firm affiliates under the purview of one or more of the existing federal financial regulators and to ensure that derivatives regulation is consistent and comprehensive across regulatory agencies. We also recommend that the financial regulators take specific actions to improve their capabilities to oversee OTC activities and to anticipate or respond to any financial crisis involving derivatives. Our recommendations also address the critical roles of the boards of directors and senior managements of the major derivatives dealers and end-users and the need for improved accounting standards and disclosure requirements for derivatives activities.

In this regard, the committee's bill, H.R. 4503, is a step toward improving the regulation of certain financial institutions that are dealers and end-users of derivatives. The committee should be commended for addressing this difficult and controversial issue and producing a constructive piece of legislation. The bill would require regulators to establish consistent standards for accounting, disclosure, capital, and examinations; could result in better call report data, including information on revenue gains and losses by class of product; would provide regulators greater access to information in an emergency; and would encourage international

cooperation to harmonize derivatives regulation. These provisions are consistent with the recommendations in our report.

Our recommendations also include other types of information that need to be disclosed and would improve the timing of routine information collected by regulators. Information on concentrations of counterparty risk could help regulators anticipate and respond to a financial crisis at a particular institution, as well as recognize potential problems from concentrations of risk across many institutions. We also recommend better reporting about the purposes of derivatives use, such as hedging or speculating. The timing of information is also important as the values of an institution's positions can change quickly. Call report data that is reported quarterly or less often is not frequent enough for regulators to know whether an institution is having financial difficulty. We recommend that the regulators work with the industry to develop methods for the regulators to obtain more timely information.

The bill's requirement for financial institutions that are derivatives dealers and end-users to have written management plans for their boards of directors would help improve their corporate governance. We would also recommend that these plans include the roles and responsibilities of the boards, audit committees, management, and internal and external auditors. This would be consistent with our recommendations that major over-the-counter

derivatives dealers and end-users have independent, knowledgeable audit committees and have internal control reporting by boards of directors, managers, and external auditors that includes assessments of derivatives risk management systems.

Because of the committee's jurisdictional boundaries, the proposed bill does not include major derivatives dealers that are the affiliates of securities firms and insurance companies. Important regulatory gaps still remain for these nonbank dealers. We have recommended that your committee work with the other committees of jurisdiction both to craft appropriate legislation to bring major nonbank dealers under some regulatory supervision and to begin to systematically address the need to revamp and modernize the entire U.S. financial regulatory system. Filling these regulatory gaps and addressing how the U.S. regulatory system should be restructured to better reflect the realities of today's rapidly evolving global financial markets are among the most important activities of these committees. In the interim, we encourage you to proceed with your proposed legislation. It is a valuable step toward improving derivatives regulation for major derivatives dealers and end-users.

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Mr. Chairman, this concludes my prepared statement. We will be pleased to answer questions.

GAO

United States General Accounting Office
Report to Congressional Requesters

May 1994

FINANCIAL DERIVATIVES

Actions Needed to Protect the Financial System



GAO/GGD-94-133



United States
General Accounting Office
Washington, D.C. 20548

Comptroller General
of the United States

B-257099

May 18, 1994

The Honorable Donald W. Riegle, Jr.
Chairman
The Honorable Alfonse M. D'Amato
Ranking Minority Member
Committee on Banking, Housing,
and Urban Affairs
United States Senate

The Honorable Patrick J. Leahy
Chairman
The Honorable Richard G. Lugar
Ranking Minority Member
Committee on Agriculture, Nutrition
and Forestry
United States Senate

The Honorable Edward J. Markey
Chairman
The Honorable Jack Fields
Ranking Minority Member
Subcommittee on Telecommunications
and Finance
Committee on Energy and Commerce
House of Representatives

The Honorable John D. Dingell
Chairman
The Honorable Carlos J. Moorhead
Ranking Minority Member
Committee on Energy and Commerce
House of Representatives

The Honorable Henry B. Gonzalez
Chairman
The Honorable Jim Leach
Ranking Minority Member
Committee on Banking, Finance
and Urban Affairs
House of Representatives

B-257099

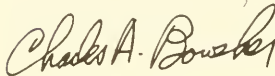
The Honorable E. (Kika) de la Garza
Chairman
The Honorable Pat Roberts
Ranking Minority Member
Committee on Agriculture
House of Representatives

The Honorable Robert F. (Bob) Smith
House of Representatives

This report responds to requests concerning derivative products. Our objectives were to determine (1) what the extent and nature of derivatives use was, (2) what risks derivatives might pose to individual firms and to the financial system and how firms and regulators were attempting to control these risks, (3) whether gaps and inconsistencies existed in U.S. regulation of derivatives, (4) whether existing accounting rules resulted in financial reports that provided market participants and investors adequate information about firms' use of derivatives, and (5) what the implications of the international use of derivatives were for U.S. regulations.

We are sending copies of this report to other appropriate congressional committees and executive branch agencies, including the Secretary of the Treasury, the Chairman of the Securities and Exchange Commission, the Acting Chairman of the Commodity Futures Trading Commission, the Chairman of the Federal Reserve Board, the Comptroller of the Currency, the Acting Chairman of the Federal Deposit Insurance Corporation, and the Acting Director of the Office of Thrift Supervision and other interested parties. We will also make copies available to others on request.

This report was prepared under the direction of James L. Bothwell, Director, Financial Institutions and Markets Issues, who may be reached on (202) 512-8678 if you or your offices have any questions. Major contributors are listed in appendix VI.



Charles A. Bowsher
Comptroller General
of the United States

Executive Summary

Purpose

Severe financial shocks of the 1980s—the 1987 market crash; the savings and loan crisis; and the failures of major banks, securities firms, and insurance companies—cost billions of dollars. As part of an effort to better anticipate and prevent future financial crises, Congress and federal regulators have focused on the increasing use of financial products known as derivatives. Derivatives have enabled commercial corporations, governments, financial firms, and other institutions in the United States and worldwide to reduce their exposure to fluctuations in interest rates, currency exchange rates, and the prices of equities and commodities. Derivatives also have enabled users to reduce funding costs and speculate on changes in market rates and prices. The market value of a derivatives contract is derived from a reference rate, index, or the value of an underlying asset—hence the term “derivative.”¹

Congress, federal regulators, and some market participants were concerned that knowledge of how to manage and oversee risks associated with derivatives may not have kept pace with their increased use. These concerns have been heightened by recent reports of major losses from derivatives use. GAO’s principal objectives were to determine (1) what risks derivatives might pose to individual firms and to the financial system and how firms and regulators were attempting to control these risks, (2) whether gaps and inconsistencies existed in U.S. regulation of derivatives, (3) whether existing accounting rules resulted in financial reports that provided market participants and investors adequate information about firms’ use of derivatives, and (4) what the implications of the international use of derivatives were for U.S. regulation.

Background

In the past 2 decades, fundamental changes in global financial markets—particularly the increased volatility of interest rates and currency exchange rates—prompted a number of public and private institutions to develop and use derivatives. Derivatives use was accelerated by the continuing globalization of commerce and financial markets and by major advances in finance, information processing, and communications technology.

The best available data indicate that the total volume of worldwide derivatives outstanding as of year-end 1992 was at least \$12.1 trillion in terms of the notional, or principal, amount of derivatives contracts. The notional amount is one way that derivatives activity is measured. However,

¹The underlying assets, rates, and indexes that determine the value of derivatives include stocks, bonds, commodities, interest rates, foreign currency exchange rates, and indexes that reflect the collective value of underlying financial products.

it is not a meaningful measure of the actual risk involved. The actual amounts at risk for many derivative products vary both by the type of product and the type of risk—credit, market, legal, or operational. For example, derivatives credit risk is the exposure to the possibility of loss resulting from a counterparty's failure to meet its financial obligations. Gross credit risk for 14 major U.S. financial institutions that responded to a GAO survey was \$114 billion, or 1.8 percent of their \$6.5-trillion notional amount, as of year-end 1992.

Other kinds of risk can be more difficult to measure than credit risk and can also result in significantly larger exposures for firms depending on the type of product and the way it is used. Because of the numerous combinations of products and types of risks, no single measure exists that reflects the actual amount at risk from derivatives activities.

But firms that use derivatives can sustain significant losses. For example, in late 1993, the U.S. subsidiary of a large German commodities firm reportedly incurred major losses on various derivatives contracts related to oil prices. Financial assistance reportedly involving more than 120 international banks and about \$2 billion was needed to resolve the crisis. Poor operations controls were reportedly responsible for allowing the losses at this firm to grow to such levels. Reports are also beginning to appear about unanticipated derivatives losses totaling in the hundreds of millions of dollars by some U.S. firms.

The four basic types of derivative products that GAO focused on were forwards, futures, options, and swaps. These basic products can be combined to create more complex derivatives. As shown in table 1, some basic derivatives are standardized contracts traded on exchanges. Others are customized contracts that include negotiated terms, such as amounts, payment timing, and interest or currency rates. When contracts are not traded on an exchange, they are called over-the-counter (OTC) derivatives.

Executive Summary

Table 1: The Four Major Types of Derivatives

Derivatives	Market	Definition	Example
Forwards	OTC markets for customized contracts	Forwards and futures obligate the holder to buy or sell a specific amount or value of an underlying asset, reference rate, or index at a specified price on a specified future date.	A U.S. importer promises to buy machinery at a future date for a price quoted in German currency. The importer can use a forward contract—or a futures contract, if one is available that meets the firm's needs—to fix the dollar cost of converting to German currency at that future date. Thus, the importer avoids a loss if the dollar cost of German currency increases between the purchase and delivery dates.
Futures	Organized exchanges primarily for standardized contracts		
Options	OTC and exchanges	Options contracts grant their purchasers the right but not the obligation to buy or sell a specific amount of the underlying at a particular price within a specified period.	A mutual fund buys an option on a given amount of Treasury bills. The fund will benefit if the price of the Treasury bills moves in a favorable direction. If the price moves in an unfavorable direction, the fund will not recover the option's price.
Swaps	OTC	Swaps are agreements between counterparties to make periodic payments to each other for a specified period. In a simple interest rate swap, one party makes payments based on a fixed interest rate, while the counterparty makes payments based on a variable rate. The contractual payments are based on a notional amount that for interest rate swaps is never actually exchanged.	A bank has a portfolio of loans whose floating rates must be adjusted frequently because they are tied to changes in market interest rates. The bank also has deposits that pay customers at rates that are adjusted infrequently. This bank has interest rate risk, because a decline in interest rates reduces the interest receipts on its loans but not the interest payments the bank must pay depositors. The bank may enter into an interest rate swap with another financial institution to hedge its interest rate risk.

Source: GAO.

Participants in derivatives markets include end-users and dealers. Firms that use derivatives to manage (hedge) their financial risks or to speculate are called end-users. They include financial institutions, commercial firms, mutual and pension funds, and some government entities.

Dealers—usually large banks, securities firms, insurance companies, or their affiliates—can use derivatives for the same purposes as end-users, but as dealers, they also earn income by meeting the demand for derivatives. To the extent that dealers are willing to buy or sell derivatives, they provide liquidity to the OTC markets. In liquid markets, a large number

of contracts can be entered into easily, without unduly affecting market and price stability.

Thousands of institutions use derivatives, but otc dealing activity is concentrated among a relatively few financial firms worldwide. U.S. bank regulatory data on the notional amount of derivatives contracts indicate that as of December 1992, the top seven domestic bank otc derivatives dealers accounted for more than 90 percent of total U.S. bank derivatives activity. Similarly, securities' regulatory data indicate that the top five U.S. securities firms dealing in otc derivatives accounted for about 87 percent of total derivatives activity for all U.S. securities firms. U.S. dealers were a major part of world activity and, according to industry sources, accounted for about half of the total volume of otc derivatives activity worldwide.

General types of controls over risks associated with derivatives activities include management and regulatory controls. Management controls include the oversight efforts of firms' boards of directors and senior management. The boards and senior managers are primarily responsible for ensuring, with the assistance of audit committees and external auditors, the effectiveness of their institutions' derivatives risk-management systems. Regulatory controls include requirements for information reporting, capital, and examinations. Consistent, reliable, and complete financial reporting of derivatives activities provides for both effective management and regulatory oversight.

GAO focused this report on derivatives but recognizes that many of the issues addressed by the report, such as risk management and corporate governance, have broader application to firms' overall activities.

Results in Brief

Derivatives serve an important function in the global financial marketplace, providing end-users with opportunities to better manage financial risks associated with their business transactions. The rapid growth and increasing complexity of derivatives reflect both the increased demand from end-users for better ways to manage their financial risks and the innovative capacity of the financial services industry to respond to market demands. However, Congress, federal regulators, and some members of the industry are concerned about these products and the risks they may pose to the financial system, individual firms, investors, and U.S. taxpayers. These concerns have been heightened by recent reports of substantial losses by some derivatives end-users.

Derivatives activities are rapidly expanding and increasingly affected by the globalization of commerce and financial markets. Much OTC derivatives activity in the United States is concentrated among 15 major U.S. dealers that are extensively linked to one another, end-users, and the exchange-traded markets. This combination of global involvement, concentration, and linkages means that the sudden failure or abrupt withdrawal from trading of any of these large dealers could cause liquidity problems in the markets and could also pose risks to the others, including federally insured banks and the financial system as a whole. Although the federal government would not necessarily intervene just to keep a major OTC derivatives dealer from failing, the federal government would be likely to intervene to keep the financial system functioning in cases of severe financial stress. While federal regulators have often been able to keep financial disruptions from becoming crises, in some cases intervention has and could result in industry loans or a financial bailout paid for by taxpayers.

GAO found that no comprehensive industry or federal regulatory requirements existed to ensure that U.S. OTC derivatives dealers followed good risk-management practices. Strong corporate governance is critical to the success of any risk-management system but is particularly crucial for managing potentially volatile derivatives activities. Primary responsibility for risk management rests with boards of directors and senior management. Until recently, no comprehensive guidelines existed against which firms could measure their risk-management performance. The Group of Thirty² sponsored a study that recommended benchmark risk-management practices for the industry.³ The study indicated that not all industry participants were following those practices. Regulators have recently issued guidelines for certain bank dealers, and both regulators and market participants said improvements in risk-management systems have already been made as a result of these recommendations and guidelines. However, GAO noted that no regulatory mechanism existed to bring all major OTC dealers into compliance with them.

GAO also noted that in such a rapidly growing and dynamic industry, new participants are likely to enter the market. Some of these new entrants may not be as knowledgeable as present dealers or may take on unwarranted risk in an attempt to gain market share or increase profits. In either case, systemic risk could increase. Each of the 15 major U.S. OTC

²The Group of Thirty is an international financial policy organization whose members include representatives of central banks, international banks and securities firms, and academia.

³Derivatives: Practices and Principles, The Group of Thirty (Washington, D.C.: July 1993).

derivatives dealers GAO visited has reported making considerable investments in its risk-management systems. While the major dealers have reported taking actions to improve their risk-management systems, GAO believes that the federal government also has responsibility for ensuring that safeguards exist to protect the financial system.

Federal regulators have begun to address derivatives activities through a variety of means, but significant gaps and weaknesses exist in the regulation of many major OTC derivatives dealers. For example, securities regulators have limited authority to oversee the financial activities of securities firm affiliates that conduct the OTC derivatives activities. Insurance companies' OTC derivatives affiliates are subject to limited state regulation and have no federal oversight. Yet OTC derivatives affiliates of securities and insurance firms constitute a rapidly growing component of the derivatives markets. In contrast, bank regulators have authority to supervise all the financial activities of banks and their holding companies. While these regulators have improved their supervision of banks' derivatives activities, their approach still has weaknesses, such as insufficient regulatory reporting requirements and inadequate documentation and testing of internal controls.

Further compounding the regulators' problems and contributing to the lack of knowledge by investors, creditors, and other market participants are inadequate rules for financial reporting of derivatives activity. GAO found that accounting standards for derivatives, particularly those used for hedging purposes by end-users, were incomplete and inconsistent and have not kept pace with business practices. Insufficient accounting rules for derivatives increase the likelihood that financial reports will not fairly represent the substance and risk of these complex activities. In addition, the lack of rules for certain products makes it likely that accounting for these products will be inconsistent, thereby greatly reducing the comparability of financial reports.

GAO believes that innovation and creativity are strengths of the U.S. financial services industry and that these strengths should not be eroded by excessive regulation. However, GAO also believes the regulatory gaps and weaknesses that presently exist must be addressed, especially considering the rapid growth in derivatives activity. The issue is one of striking a proper balance between (1) allowing the U.S. financial services industry to grow and innovate and (2) protecting the safety and soundness of the nation's financial system. Achieving this balance will require unprecedented cooperation among U.S. and foreign regulators, market

participants, and members of the accounting profession. GAO makes recommendations designed to help Congress, the regulators, and the industry address this issue.

Principal Findings

Derivatives Risk Management Requires Comprehensive Oversight

The risks posed by derivatives use include (1) credit risk (as defined earlier); (2) market risk (adverse movements in the price of a financial asset or commodity); (3) legal risk (an action by a court or by a regulatory or legislative body that could invalidate a financial contract); and (4) operations risk (inadequate controls, deficient procedures, human error, system failure, or fraud). These general types of risk exist for many financial activities, but the specific risks in derivatives activities are relatively difficult to manage, in part, because of the complexity of some of these products and the difficulties in measuring these risks. For example, because derivatives might be used in conjunction with other assets and liabilities, measuring the extent of market risks of derivative products alone is not sufficient to understand firms' total market risk.

Regulatory examinations of the major bank dealers that were done from 1990 through 1992 identified some serious weaknesses in these dealers' risk-management systems, such as failure to set or follow risk limits. The July 1993 Group of Thirty report recommended derivatives risk-management practices that boards of directors and senior managers could use as benchmarks against which to measure their firms' improvements in risk-management practices. A survey of 80 dealers that was done as part of the report indicated that the risk-management systems of these dealers did not conform with all of the report's recommendations. However, the report indicated that major dealers followed the recommended practices more completely than did other firms. Subsequently, the Office of the Comptroller of the Currency and the Federal Reserve issued guidance on risk-management practices for the banks they supervise that was consistent with the Group of Thirty recommendations. Regulators and the 15 major OTC dealers GAO visited said that improvements in risk-management systems have been made in response to both the Group of Thirty recommendations and bank guidance. However, GAO noted that the Group of Thirty recommendations did not have the force of regulation and the bank guidance only applied to certain banks.

Boards of directors, senior managers, audit committees, and external auditors all have important roles in ensuring that derivatives risks are managed effectively. Prior GAO work showed weak corporate governance systems were a common feature of failed financial institutions. Congress recognized this weakness in enacting the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), which required management of large banks and thrifts to perform annual comprehensive assessments of their internal control systems for financial reporting and establish independent audit committees. It also required external auditors to report on managements' assessments.

FDICIA's requirements do not apply to all major dealers and end-users of complex derivative products. Nonetheless, strong internal control systems; independent, knowledgeable audit committees; and public reporting on internal controls are critical to firms engaged in complex derivatives activities and should play an important role in ensuring sound financial operations and protecting shareholder interests of these firms. Thus, GAO encourages the boards of directors of major dealers and end-users of derivatives that have not already done so to establish and implement these improvements.

Regulatory Gaps Heighten Systemic Risk

Basic regulatory controls did not exist for many major U.S. OTC derivatives dealers, as shown in table 2. For example, banks—but not securities or insurance firm affiliates—were subject to regulatory examinations. In addition, major U.S. OTC derivatives dealers that were affiliates of securities and insurance firms were not required to hold a specific amount of capital to cushion against potential derivatives-related losses. In contrast, banks that were OTC derivatives dealers had capital requirements. Further, only banks and securities firm affiliates were required to submit information routinely on derivatives activities. But this information was submitted quarterly and did not include comprehensive counterparty concentrations or sufficient detail on the type and amount of derivatives earnings.

Executive Summary

Table 2: U.S. Regulatory Oversight of OTC Derivatives Activities of Financial Institutions and Financial Institution Affiliates as of April 1994

Type of institution	Examination requirements	Capital requirements	Reporting requirements
Banks	Banks are subject to annual examinations. Those major OTC derivatives dealers regulated by the Office of the Comptroller of the Currency are subject to continuous on-site examinations.	For credit risk, banks are to hold capital against their derivatives' positions equal to 8 percent of the adjusted value of their positions. The adjustments serve to reduce required capital, depending on the type of counterparty and the maturity of the contract. Since March 1994, these firms also must hold at least 3 percent of the unadjusted replacement cost of certain contracts.	Banks are to report quarterly their total derivatives notional amounts by product type. They also are to report the total gross replacement cost of these positions. Reporting on individual counterparty credit exposures is not required, but the exposures may be reviewed by regulatory staff during periodic examinations.
Securities firm affiliates	None.	None.	Since October 1992, securities firm affiliates have been required to report quarterly their total derivatives notional amounts by product type. They also were to report the total gross replacement cost of those positions. Information on individual counterparty credit exposures is to be reported only when exposures are above a certain threshold.
Insurance firm affiliates	None.	None.	Insurance firm affiliates' financial information is consolidated with parent company reports.

Source: GAO.

The largely unregulated activities of U.S. otc derivatives dealers that are affiliates of securities and insurance companies have been growing rapidly. As of their fiscal year-end 1992, the five major securities firms and three insurance companies whose affiliates had the highest dollar amount in derivatives outstanding accounted for about 30 percent of the U.S. otc dealers' total volume, while banks accounted for about 70 percent. However, the growth rate of otc and exchange-traded derivatives from 1990 through 1992 was 100 percent for insurance firms and 77 percent for securities firms, compared with 41 percent for banks.

If one of these large otc dealers failed, the failure could pose risks to other firms—including federally insured depository institutions—and the

financial system as a whole. Financial linkages among firms and markets could heighten this risk. Derivatives clearly have expanded the financial linkages among the institutions that use them and the markets in which they trade. Various studies of the October 1987 market crash showed linkages between markets for equities and their derivatives. According to those studies, prices in the stock, options, and futures markets were related, so that disruptions in one were associated with disruptions in the others.

The concentration of OTC derivatives activities among a relatively few dealers could also heighten the risk of liquidity problems in the OTC derivatives markets, which in turn could pose risks to the financial system. Because the same relatively few major OTC derivatives dealers now account for a large portion of trading in a number of markets, the abrupt failure or withdrawal from trading of one of these dealers could undermine stability in several markets simultaneously, which could lead to a chain of market withdrawals, possible firm failures, and a systemic crisis. The federal government would not necessarily intervene just to keep a major OTC derivatives dealer from failing, but to avert a crisis, the Federal Reserve may be required to serve as lender of last resort to any major U.S. OTC derivatives dealer, whether regulated or unregulated. Two past major financial disruptions have already shown liquidity problems involving securities, foreign exchange, and derivatives markets—the 1987 market crash and the 1992 turmoil in European currency markets.

Accounting Principles for Derivatives Have Not Kept Pace With Business Practices

Generally Accepted Accounting Principles are not adequate to ensure reliable and consistent financial reporting of derivatives activities. In particular, accounting rules for hedging activities are incomplete and inconsistent. Thus, investors, market participants, and regulators may lack reliable information on which to base investment and business decisions and regulatory actions. In the absence of accounting rules for certain derivatives, accounting practices of derivatives market participants have been shaped by common industry practice and the adaptation of existing rules for similar products. This approach to accounting for derivatives is likely to result in inappropriate and inconsistent financial reporting of derivatives activities, especially reporting of hedging activities by end-users.

To address concerns about the extent and nature of the use of derivatives and other financial instruments, the Financial Accounting Standards Board (FASB) issued two disclosure standards. These standards require disclosure

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of certain risks involved in holding financial instruments and the fair value of these instruments. Because of the limitations of the existing standards, FASB recently proposed a third standard, which is intended to require more specific and comprehensive disclosures about derivatives activities. This proposed standard is an improvement over existing disclosure requirements. However, additional disclosures would provide financial statement users a more complete understanding of derivatives activities. While disclosure does provide important information about derivatives activities and associated risks, it is no substitute for accounting standards that promote reliable and consistent financial reporting.

FASB recognizes the need for comprehensive accounting standards for derivatives and other financial instruments. FASB began work in 1986 to provide comprehensive accounting standards for the recognition and measurement of these instruments and has made progress in developing standards for certain financial instruments. However, progress on the development of proposed standards for derivatives has been slow, in part, because of the complexity and diversity of some derivative products and particularly because of controversy over how to account for products used for hedging purposes. FASB has been unable to reach agreement on basic accounting questions that must be resolved before meaningful progress can be made to develop accounting rules for derivatives.

FASB has discussed market value accounting as a means to resolve many of the derivatives hedge accounting issues it faces. While GAO believes that market value accounting is ultimately the best solution to accounting for all financial instruments, including derivatives, GAO also recognizes that the adoption of a new accounting model such as this is likely to take some time. Because time is critical for providing authoritative accounting rules for derivatives, it may not be feasible to strive toward comprehensive market value accounting in the short term. However, market value accounting should be FASB's ultimate objective.

**The Protection of
Internationally Linked
Financial Systems
Requires Coordinated
International Efforts**

The interrelationships among OTC derivatives dealers and markets worldwide increase the likelihood that a crisis involving derivatives will be global. GAO's analysis of publicly reported information indicated that financial institutions worldwide with the largest derivatives volumes, in terms of notional amounts, included firms from 11 countries. The highest volume firms were from France, Switzerland, the United Kingdom, and the United States. These firms were also actively conducting derivatives activities in markets outside their own countries. Data provided to GAO by

14 major U.S. dealers indicated that an average of about 24 percent of their OTC derivatives volume represented transactions with foreign dealers as of year-end 1992.

The major OTC derivatives dealers in the countries included in GAO's review were subject to varying types of regulation. With many different regulatory approaches, strengthening U.S. derivatives regulation without coordinating and harmonizing related actions with foreign countries poses at least two risks. First, U.S. financial institutions would remain vulnerable to a crisis that began abroad and spread to the United States as a result of the global linkages among financial institutions and markets. Second, regulation that market participants viewed as too severe could cause firms to move their derivatives activities outside of the United States. However, coordinating and harmonizing regulation worldwide has been difficult to achieve. The United States should continue its leading role in bringing greater harmonization to international regulation of financial activities, including derivatives.

Recommendations

Recommendations to Congress

Given the weaknesses and gaps that impede regulatory preparedness for dealing with a crisis associated with derivatives, GAO recommends that Congress require federal regulation of the safety and soundness of all major U.S. OTC derivatives dealers. Regulators should attempt to prevent financial disruptions from turning into crises and resolve crises to minimize risks to the financial system. Thus, firms that become insolvent should be allowed to fail but to do so in an orderly fashion.

The immediate need is for Congress to bring the currently unregulated OTC derivatives activities of securities firm and insurance company affiliates under the purview of one or more of the existing federal financial regulators and to ensure that derivatives regulation is consistent and comprehensive across regulatory agencies. This could be done in several ways. For example, one legislative proposal would accomplish this goal by assigning the responsibility for the unregulated entities to the Securities and Exchange Commission (SEC) and creating an interagency commission to establish principles and standards for each federal financial regulator to use in supervising derivatives activities. Another approach could be based on the concept that underlies the arrangement established for government

securities dealers. Under this concept, lead responsibility for setting principles and standards applicable to all major U.S. derivatives dealers would be divided among existing agencies on the basis of their expertise and mission. Extensive consultation with all of the agencies supervising derivatives activities would be required before any principles or standards were adopted.

GAO also recommends that Congress systematically address the need to revamp and modernize the entire U.S. financial regulatory system. Gaps and weaknesses in OTC derivatives regulation clearly demonstrate that the existing regulatory structure has not kept pace with the dramatic and rapid changes in the domestic and global financial markets that have occurred over the past several years. Banking, securities, futures, and insurance are no longer separate and distinct industries that can be well regulated by the existing patchwork quilt of federal and state agencies. Many issues need to be debated and decided, including the appropriate uses of federally insured deposits and the extent to which they should be used to finance large-scale proprietary trading in derivatives or other financial instruments. One of the first issues that needs to be addressed is how the U.S. regulatory system should be restructured to better reflect the realities of today's rapidly evolving global financial markets. GAO recommends that the committees of jurisdiction work together on this issue. In addition, these committees should hold hearings, at least annually, on developments that affect the safety, soundness, and stability of the U.S. financial system.

Recommendations to Financial Regulators

GAO recommends that the appropriate regulatory authorities take the following actions to improve their capability to oversee OTC derivatives activities and to anticipate and respond to any financial crisis involving derivatives. Developing specific solutions should involve working closely with industry representatives to:

- Develop and maintain accurate, current, and centralized information that is accessible to all regulators, including information on the extent of major OTC dealers' counterparty concentrations and the sources and amounts of their derivatives earnings.
- Develop and adopt a consistent set of capital standards for OTC derivatives dealers sufficient to ensure that all of the major risks associated with derivatives are reflected in capital.
- Establish specific requirements for independent, knowledgeable audit committees and internal control reporting for all major OTC derivatives

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dealers. Internal control reporting by boards of directors, managers, and external auditors should include assessments of derivatives risk-management systems.

- Perform comprehensive, annual examinations of the adequacy of major OTC derivatives dealers' risk-management systems using a consistent set of standards established for this purpose and including consideration of the internal control assessments performed by boards of directors, management, and auditors.
- Provide leadership in working with industry representatives and regulators from other major countries to harmonize disclosure, capital, examination, and accounting standards for derivatives.

Recommendations to FASB

GAO recommends that FASB:

- Proceed expeditiously to issue its existing exposure draft on disclosures of derivatives and fair value of financial instruments.
- Proceed expeditiously to develop and issue an exposure draft that provides comprehensive, consistent accounting rules for derivative products, including expanded disclosure requirements that provide additional needed information about derivatives activities.
- Consider adopting a market value accounting model for all financial instruments, including derivative products.

Recommendations to SEC

GAO recommends that SEC:

- Ensure that SEC registrants that are major end-users of complex derivative products establish and implement corporate requirements for independent, knowledgeable audit committees and public reporting on internal controls. Internal control reporting by boards of directors, managers, and external auditors should include assessments of derivatives risk-management systems.
- Ensure that FASB proceeds expeditiously to develop and adopt comprehensive, consistent accounting rules and disclosure requirements for derivative products.

Agency Comments

We did not receive formal agency comments on this report. However, we did provide senior officials of the administration, U.S. and foreign financial regulators, the major derivatives dealers, the major derivatives exchanges, and FASB, as well as other industry representatives and experts an

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opportunity to discuss the findings and conclusions of our work. We incorporated their comments where appropriate.

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Abbreviations

BIS	Bank for International Settlements
CEA	Commodity Exchange Act
CFTC	Commodity Futures Trading Commission
COSO	Committee of Sponsoring Organizations of the Treadway Commission
EC	European Community
FASB	Financial Accounting Standards Board
FCM	futures commission merchant
FDIC	Federal Deposit Insurance Corporation
FDICIA	Federal Deposit Insurance Corporation Improvement Act of 1991
FFIEC	Federal Financial Institutions Examination Council
GAAP	Generally Accepted Accounting Principles
GFOA	Government Finance Officers Association
IOSCO	International Organization of Securities Commissions
ISDA	International Swaps and Derivatives Association
OCC	Office of the Comptroller of the Currency
OECD	Organization for Economic Cooperation and Development
OTC	over-the-counter
SEC	Securities and Exchange Commission
SFAS	Statements of Financial Accounting Standards

Introduction

In the past 20 years, fundamental changes in global financial markets have increased the demand for cost-effective protection against risks associated with movements in foreign exchange and interest rates as well as equity and commodity prices. The increase in the volatility of foreign exchange rates began in the early 1970s after the world's major industrial countries abandoned the Bretton Woods system of fixed currency rates.¹ This system collapsed after the United States suspended the dollar's convertibility into gold. It was replaced by the current floating exchange rate system that allows currency rates to fluctuate in response to supply and demand. Similarly, an increase in the volatility of interest rates occurred following changes in government policy that allowed interest rates to fluctuate more freely.² Also, institutions' exposures to rate and price volatility increased because of growth in international commerce and finance.

Derivatives Address Uncertainties in Global Financial Markets

Derivatives are globally used financial products that have evolved to meet the demand for cost-effective protection against risks associated with rate and price movements. Derivatives essentially unbundle and transfer those risks from entities less willing or able to manage them to those more willing or able to do so. The values of derivatives are based on, or derived from, the value of an underlying asset, reference rate, or index—called the underlying. Common types of underlying assets are stocks, bonds, and physical commodities, such as wheat, oil, and lumber. An example of an underlying reference rate is the interest rate on the 3-month U.S. Treasury bill. An example of an underlying index is the Standard & Poor's 500 Index, which measures the performance of 500 common stocks.

Derivatives include customized and standardized contracts. Some derivatives are customized contracts between parties (also called counterparties) that include one or more negotiated terms in addition to price. These terms can include the quality and quantity of the underlying, time and place of delivery, and method of payment. Other derivatives are standardized contracts whose terms are fixed—except for price, which the market determines. Derivatives can be privately negotiated by the parties; these are called over-the-counter (OTC) derivatives. Derivatives also can be traded through central locations, called organized exchanges, where

¹The Bretton Woods system, established in 1944, maintained exchange rate stability by fixing non-U.S. currencies to the U.S. dollar, which was convertible into gold at \$35 per ounce. The United States suspended convertibility into gold in 1971, and the system of fixed currency rates was abandoned in 1973.

²In the United States, interest rate volatility increased after October 1979, when the Federal Reserve shifted away from a policy centered on its controlling interest rates.

buyers and sellers or their representatives meet to determine derivatives prices; these are called exchange-traded derivatives.

The Ways Market Participants Use Derivatives

Market participants use derivatives (1) to hedge, or to protect against adverse changes in the values of assets or liabilities; (2) to speculate, or to assume risk in attempting to profit from anticipating changes in market rates or prices; and (3) to obtain more desirable financing terms.³

Hedgers protect themselves from market risk, which is the exposure to the possibility of financial loss caused by adverse changes in the values of assets or liabilities. They protect themselves by entering into derivatives transactions whose values are expected to change in the opposite direction as the values of their assets or liabilities. For example, a hedger can protect asset values through derivatives transactions that increase in value as the asset values decline. The increases in values of the derivatives contracts (profits) will offset, or hedge, the decrease in values of the assets (losses).

In contrast, speculators take on risk in an attempt to profit from changes in the values of derivatives or their underlyings. Rather than owning the underlying, speculators can use derivatives as a more affordable way to attempt to profit from anticipating movements in market rates and prices. As speculators enter into transactions with hedgers and other speculators, they provide liquidity to the derivatives markets, thereby helping to ensure that high volumes of trading can occur without significantly affecting prices.

Some derivatives enable market participants to obtain more desirable financing in two ways. First, as we discuss later in this chapter, market participants can work together to take advantage of differences in the rates at which they borrow money. Second, an important by-product of hedging is the enhanced creditworthiness of the hedger. Banks will extend more favorable financing terms to firms that have reduced their market risk through hedging activities.

In achieving these purposes, derivatives can be more cost-effective than transactions in the underlying cash markets because of the reduced transaction costs and the leverage that derivatives provide. For example, instead of buying or selling \$100,000 worth of U.S. Treasury bonds, a

³Institutions may also use derivatives to change the asset mix of their portfolios. They use derivatives because their costs are lower than those of buying or selling the underlying.

market participant can realize the benefits of buying or selling the same amount of bonds by using a derivatives contract and posting a deposit, called a margin, of only about \$1,500, or 1.5 percent of the face amount of the bonds. Likewise, a market participant can achieve a result similar to buying or selling all of the stocks in the Standard & Poor's 500 Index by buying or selling a derivatives contract on this index for as little as 5 to 10 percent of the cost of the underlying stocks.

The Basic Types of Derivatives and How They Are Used

Derivative products include forwards, futures, options, and swaps. Forwards, futures, and options are typically used to hedge or to speculate. Swaps are typically used to hedge or to obtain more desirable financing. Swaps can be used to speculate⁴ but may not be used as frequently for this purpose because a swap's transaction costs are high compared to those of other derivatives, according to market participants. These basic products also can be combined to create more complex products, called hybrid derivatives.

Forwards and Futures

Forwards and futures are contracts that obligate the holder to buy or sell a specific underlying at a specified price, quantity, and date in the future. Forwards are OTC contracts; futures are usually standardized contracts traded on organized exchanges.

Market participants can hedge their assets and liabilities with either forwards or futures, depending on whether they need a customized product or can use a standardized exchange-traded product. For example, a U.S. importer arranged to buy machinery from a German manufacturer for delivery 1 year from the date of the arrangement and at a price payable upon delivery in German currency (the mark). In this case, the importer's need for a customized contract necessitated the use of a forward contract rather than a standardized futures contract. At the time the importer arranged the purchase, it entered into a foreign exchange forward contract to purchase the exact amount of marks needed to pay for the machinery at the expected delivery date in 1 year. The foreign exchange forward contract enabled the importer at the time of the purchase arrangement to lock in the U.S. dollar cost of marks. Without this contract, the importer would have been exposed to the risk of a rise in the dollar cost of buying

⁴One U.S. firm had an after-tax loss of \$102 million to close out two leveraged interest rate swaps, according to the firm's press release. The transactions were adversely affected by the recent dramatic increase in interest rates. The company said that these transactions were inconsistent with its policy. News accounts reported these swaps as speculative transactions.

marks between the time the purchase was arranged and the time the machinery was delivered.⁵

Speculators can use either forward or futures contracts to attempt to profit from market movements. For example, a speculator who believes the dollar cost of the mark is about to rise very quickly can buy a forward or futures contract that increases in value with rises in the value of the mark. If the increase in the dollar cost of the mark is greater than the market expects, the speculator can profit. Alternatively, if the dollar cost of the mark rises more slowly than the market expects or declines in value, the speculator will lose money.

Options

Option contracts, which can be either customized and privately negotiated or standardized, give the purchaser the right to buy (call option) or sell (put option) a specified quantity of a commodity or financial asset at a particular price (the exercise price) on or before a certain future date.⁶ For this right, the purchaser pays the seller (writer) an amount called the option premium. In general, purchased call options increase in value with increases in the market value of the underlying. Purchased put options generally increase in value with decreases in the market value of the underlying.

Options differ from forwards and futures in that options do not require the purchaser to buy or sell the underlying. A purchaser will not exercise an option until the market price of the underlying is greater than the exercise price for a call option or less than the exercise price for a put option. Options that are not exercised expire with no value. Therefore, the amount that can be lost by option purchasers is the amount of the premium. However, the amount that can be lost by option writers can be much greater, because they are liable for covering the costs of any changes in value that benefit the purchasers.

The U.S. importer of German machinery we mentioned earlier could have purchased a foreign exchange call option instead of a foreign exchange forward contract to protect against the risk of a rise in the dollar cost of marks. Paying the call option premium would have given the importer the right to buy the needed amount of marks at a specified exchange rate. If

⁵A decline in the value of the mark would impose an opportunity cost, however, because the importer would have paid a higher price for the marks in the forward contract than it could have paid by purchasing the currency at the time of delivery.

⁶This is the definition of an American-style option. A European-style option can only be exercised on its expiration date.

the U.S. dollar cost of marks had risen above the specified exchange rate as of the payment due date, the importer could have exercised the option to buy the marks. If the price of marks had not risen above the specified exchange rate, the importer could have purchased the marks in the market and allowed the option to expire.

Speculators, too, can use options to benefit from greater-than-expected fluctuations in market rates and prices. A speculator that buys an option on an underlying—such as an option on an amount of U.S. Treasury notes or German marks—will benefit if the price of the underlying moves far enough in a favorable direction to create profits greater than the option premium. If the movement in the price of the underlying does not create profits to cover the option premium or is unfavorable, the speculator will lose money but no more than the amount paid for the option premium plus transaction costs. Speculators can also profit from writing options by collecting the premiums for options that are not exercised. This profit can be exceeded by losses, however, if the price movement of the underlying is unfavorable. In fact, if the unfavorable price movement is large and occurs before the speculator can buy back the option or enter into an offsetting transaction, the speculator can incur losses that are many times greater than the value of the premium received.

Swaps

Swaps are OTC agreements between counterparties to make periodic payments to each other for a stated time. The calculation of these payments is based on an agreed-upon amount, called the notional principal amount or simply the notional amount.⁷ The notional amount is not typically exchanged except in currency swaps. The periodic payments may be fixed or floating. Floating payments change with fluctuations in interest or currency rates or equity or commodity prices, depending on contract terms.

Financial institutions can use swaps to hedge against adverse changes in interest rates, among other things. For example, a bank may have a portfolio of loans whose floating interest rates adjust frequently because they are tied to changes in market interest rates. The bank also may have an obligation to make interest payments on deposits that are adjusted less

⁷Some derivatives, principally interest rate swaps, are only exchanges of periodic payments between counterparties. The amount that the counterparties use to determine the payments to be exchanged is called the notional amount because it is not exchanged. The notional amount is exchanged at the termination of foreign currency swaps. For forwards, futures, and options, we use the amount of the contract to measure the volume. When we refer to the collective volumes of all of the products, we use the term notional/contract amount.

frequently. Such a bank would be exposed to interest rate risk because a decline in interest rates would reduce the interest receipts on its loans but not the interest payments on deposits. The bank may enter into an interest rate swap with another financial institution to hedge the interest rate risk. In the swap contract, the bank would agree to make payments based on a floating interest rate in exchange for receiving payments based on a fixed interest rate. Thereafter, if interest rates declined, the bank's fixed rate receipts on the swap would match its fixed rate payments to depositors. If interest rates rose, the higher rates the bank received on the loans in its portfolio would offset the higher rates it paid under the swap agreement.

Swaps can also be used to obtain more desirable financing terms. For example, a company with a medium credit rating may wish to protect against rising interest rates by obtaining fixed rate borrowing but may not wish to pay the higher interest rate normally paid by companies of its credit quality. The company may be able to arrange lower fixed rate financing by first obtaining a floating rate loan and then entering into a swap contract with a higher rated counterparty.

The Participants in the Derivatives Markets and the Level of Their Activity

Derivatives market participants include end-users and dealers. End-users typically use OTC and exchange-traded derivatives to hedge risk, obtain more desirable financing terms, or speculate on market movements. End-users include banks, securities firms, insurance companies, governments, mutual and pension funds, and commercial firms worldwide. Data on global derivatives use are unavailable, but data provided by U.S. bank regulators showed that more than 500 U.S. banks used derivatives in 1992.⁸ In appendix I, we discuss the use of derivatives by state and local government entities and private pension plans.⁹

Certain institutions that use derivatives also act as dealers by quoting prices to, buying derivatives from, and selling derivatives to end-users and other dealers. Similar to other end-users, dealers use derivatives to hedge risk, obtain more desirable financing terms, and speculate on market movements. They also develop customized derivative products for their clients. In general, derivatives dealing provides liquidity to OTC markets and profits and losses to dealers. Some highly complex transactions

⁸Comparable data were unavailable for securities firms and insurance companies.

⁹To determine the extent and nature of derivative product use by end-users, we mailed a survey to more than 4,600 state and local government entities and 156 private pension plans. The survey results showed that for fiscal year 1992 the extent of derivatives use varied from a low of 4 percent of local government entities to a high of 72 percent of private pension plans and that the types of derivatives used varied widely across the different types of entities.

involving combinations of derivatives, such as swaps and options, can generate large fees. They also represent a growing part of derivatives activity. Dealers in otc derivatives actively use exchange-traded derivatives—often to hedge the risks of their otc portfolios. Data indicate that otc derivatives dealers are usually large international banks and affiliates of securities firms or insurance companies with high credit ratings; however, data are unavailable on the total number of dealers worldwide.

Objectives, Scope, and Methodology

Our objectives were to determine (1) what the extent and nature of derivatives use was, (2) what risks derivatives might pose to individual firms and to the financial system and how firms and regulators were attempting to control these risks, (3) whether gaps and inconsistencies existed in U.S. regulation of derivatives, (4) whether existing accounting rules resulted in financial reports that provided market participants and investors adequate information about firms' use of derivatives, and (5) what the implications of the international use of derivatives were for U.S. regulation.

To determine the extent and nature of derivatives use, we reviewed relevant literature, congressional testimony, and previous studies. We interviewed selected U.S. and foreign financial regulators, financial industry representatives, market participants, academicians, and consultants. In addition, we gathered and analyzed information on the size of the market, the level of concentration of derivatives activity among major otc dealers, and the linkages among markets and firms associated with derivatives use. To do this, we reviewed regulatory and industry data and asked 15 major U.S. otc derivatives dealers to complete a written survey (see app. V), of which 14 responded (see app. III for survey results). The 15 U.S. firms surveyed included the 7 banks, 5 broker-dealers, and 3 insurance company affiliates that in 1992 had the highest levels of derivatives activity in their respective industries. The seven banks and five broker-dealers we focused on had considerably higher levels of derivatives activity than others in their industry; and the three insurance companies were the only U.S. insurance companies that we could identify as derivatives dealers. We identified the 15 major U.S. otc derivatives firms by using information on derivatives activities from bank regulators, the Securities and Exchange Commission (SEC), the Securities Industry

Association,¹⁰ and annual reports. We did not verify the statistical information we received from the derivatives dealers.

To determine the risks that derivatives might pose to individual firms and the way these firms attempted to control these risks, we interviewed selected officials from 20 securities firms, 30 banks, 5 thrifts, 6 pension funds, 5 insurance companies, 19 industry associations, 3 software vendors, and 2 credit rating agencies. These interviews included discussions with the 15 major U.S. OTC derivatives dealers we identified earlier. We also interviewed selected U.S. and foreign financial regulators, industry representatives, academicians, and consultants to gain an understanding of derivatives activities, the risks associated with these activities, and organizational structures and approaches used to manage derivatives risks. In addition, we reviewed relevant literature, congressional testimony, and previous studies done by regulators, international organizations, and other groups. Finally, we gathered and analyzed information, including responses to the survey of the major OTC derivatives dealers mentioned earlier, on how firms manage risks that derivatives pose.

To determine whether gaps and inconsistencies existed in U.S. regulation of derivatives, we (1) interviewed selected U.S. and foreign bank, thrift, securities, options, futures, and insurance industry regulators and (2) reviewed government, exchange, and international organization documents, including correspondence, memoranda, reports, regulations, and laws. In addition, we reviewed and analyzed financial regulators' examination policies, procedures, reports, and workpapers.

To determine whether existing accounting rules result in financial reports that provide market participants and investors adequate information about firms' use of derivatives, we reviewed existing and proposed Generally Accepted Accounting Principles (GAAP) and other accounting guidance relevant to derivatives. In addition, we had discussions with Financial Accounting Standards Board (FASB)¹¹ staff and reviewed various discussion papers, correspondence, and memoranda on accounting for derivatives prepared by FASB staff. Finally, we reviewed the 1992 annual reports of 10 large U.S. bank holding companies with significant derivatives activity, including the 7 major OTC derivatives dealers.

¹⁰The Securities Industry Association is a trade group that represents broker-dealers that account for about 90 percent of the securities business in North America.

¹¹FASB is an independent board with primary responsibility for establishing and interpreting GAAP. GAAP includes rules for accounting for transactions and related disclosure requirements.

To determine the implications of the international use of derivatives for U.S. regulation, we gathered information on and analyzed the use of derivatives in Australia, France, Germany, Japan, Singapore, Switzerland, and the United Kingdom. In these countries, we interviewed officials from bank and securities regulators; stock, futures, and options exchanges; and selected foreign financial institutions. In addition, we interviewed officials from seven international organizations—the Bank for International Settlements (BIS),¹² the Basle Committee on Banking Supervision,¹³ the European Community (EC),¹⁴ the International Organization of Securities Commissions (IOSCO),¹⁵ the Organization for Economic Cooperation and Development (OECD),¹⁶ the World Bank,¹⁷ and the International Swaps and Derivatives Association (ISDA).¹⁸ We obtained their opinions about the adequacy of domestic and international regulation, the existence of regulatory gaps, and the need for further improvements.

We focused our review on financial forwards, futures, options, and swaps and the 15 major U.S. OTC derivatives dealers discussed earlier. We did not include derivatives securitized by specific assets (called asset-backed securities), such as collateralized mortgage obligations. Unlike forwards, futures, options, and swaps, which are designed to transfer risk among counterparties, asset-backed securities are similar to bonds in that they are issued in order to raise funds. However, like the derivative products

¹²BIS was established in 1930 in Basle, Switzerland, by Western European central banks. One of its functions is to provide a forum for cooperative efforts by the central banks of major industrial countries.

¹³This committee, which includes central bank and bank supervisory representatives from 12 leading industrial nations (Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States) is a forum for addressing international bank regulation issues. The committee meets under the auspices of the Bank for International Settlements in Basle, Switzerland.

¹⁴The EC includes Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom. Its purpose is to unite these countries under one system of rules and regulations in all aspects of trade, including financial markets.

¹⁵The IOSCO includes securities administrators from 63 countries, as of February 1993. The organization facilitates efforts to coordinate international securities regulation.

¹⁶OECD includes members from 24 developed countries. Its goals are to achieve high economic growth, contribute to sound economic expansion, and contribute to the expansion of world trade.

¹⁷The World Bank, also known as the International Bank for Reconstruction and Development, was established in 1945 and is owned by 160 countries. Its objective is to help raise the standard of living in developing countries by channeling financial resources to them from developed countries. It finances its lending operations primarily from borrowing in international capital markets.

¹⁸ISDA is a trade association that represents more than 160 leading financial institutions worldwide. Its membership includes investment, commercial, and merchant banks that deal in privately negotiated OTC derivatives transactions.

we discuss, purchasers may hold them for investment purposes or to hedge interest rate risks.

We recognized that many of the issues addressed in this report could be extended to the overall activities of firms. For example, our discussions of corporate governance, risk management, and internal controls could be applied to such activities. Because our focus was on derivatives, however, we did not attempt to broaden the discussion in this way.

We did our work between April 1992 and March 1994 in accordance with generally accepted government auditing standards.

Agency Comments

We did not receive formal agency comments on this report. However, we did provide senior officials of the administration, U.S. and foreign financial regulators, the major derivatives dealers, the major derivatives exchanges, and FASB, as well as other industry representatives and experts an opportunity to discuss the findings and conclusions of our work. We incorporated their comments where appropriate.

Extent and Nature of Derivatives Use

We used the best data available to estimate that the notional/contract amount of derivatives outstanding globally as of year-end 1992 was at least \$12.1 trillion.¹ This estimate understates the actual amount of derivatives outstanding, because the sources we used were not always complete, and no statistics existed for some derivatives.

Thousands of institutions use derivatives, but OTC derivatives dealing activity is concentrated among a relatively few financial firms worldwide. Further, derivatives activity has expanded financial linkages among the dealers, end-users, and exchange-traded markets in which these institutions trade. Regulators and market participants have differing views on the potential effects of derivatives market growth, dealer concentration, and financial linkages should a financial crisis occur. However, past experience has shown that cases of severe financial stress generally require federal intervention to resolve.

Derivatives Activity Has Grown Rapidly

Without complete information about total global derivatives volume, we estimated that the global notional/contract amount outstanding at the end of fiscal year 1992 was at least \$12.1 trillion.² This estimate does not include more than \$5.5 trillion of foreign exchange forward contracts. These contracts generally have been excluded from estimates in other reports. Most have short terms—7 days or less—and are often difficult to distinguish from the cash market. However, foreign exchange forward contracts are derivatives, and we have included them in our analysis throughout the report. The total notional/contract amounts of derivatives outstanding at the end of fiscal year 1992 represents an increase of about 145 percent from the end of fiscal year 1989, the earliest year for which comparable data are available. As noted in chapter 1, derivatives use has grown in response to the expanding need for products to address the risks of volatile interest and exchange rates and prices. This growth has been facilitated by major advances in finance, information processing, and communications technology.

¹Some of the summary data used in this report were derived from multiple sources that may cover different 12-month periods. For example, U.S. bank regulatory data for major OTC dealers are reported on a calendar year basis, and annual report data for these dealers are on a fiscal year basis; however, these dealers do not all have the same fiscal year. To minimize confusion, we use the term year-end for all data for which this condition applies.

²Our \$12.1-trillion estimate also includes \$2 trillion of forward rate agreements. In a forward rate agreement, counterparties agree on an interest rate to be paid on a notional amount of specified maturity at a specific future date. An estimate for the volume of these agreements appeared in a 1993 article published by the Federal Reserve Bank of New York, Eli M. Remolona, "The Recent Growth of Financial Derivative Markets," Federal Reserve Bank of New York Quarterly Review (New York: Winter 1992/93).

Chapter 2
Extent and Nature of Derivatives Use

The notional/contract amount is one way derivatives activity is measured. However, it is not a meaningful measure of the actual risk involved. For certain types of derivative products, the amount at risk can be much smaller than the notional/contract amount, which we discuss in chapter 3.

Table 2.1 shows the notional/contract amounts of derivatives held by four types of underlyings from year-end 1989 through year-end 1992. For this period, the notional/contract amount of interest rate derivatives grew at a faster rate than the amount of foreign exchange derivatives (153 percent compared to 133 percent, respectively). The table also shows that the interest rate derivatives market as of year-end 1992 was larger (62 percent of the total) than the foreign exchange derivatives market (37 percent of the total). The equity and commodity derivatives markets combined were much smaller (1 percent of the total).³

Table 2.1: Notional/Contract Amounts of Derivatives Held by Type of Underlying From Year-End 1989 Through Year-End 1992

Dollars in billions

Type of underlying	1989	1990	1991	1992	Percentage of total 1992	Percentage increase from 1989 through 1992
Interest rate	\$4,311	\$ 6,087	\$ 8,404	\$10,923	62%	153%
Foreign exchange rate	2,779	3,927	5,415	6,475	37	133
Equity and commodity price ^a	108	158	209	245	1	127
Total	\$7,198	\$10,172	\$14,028	\$17,643	100%	145%

Note: See appendix IV for methodology

^aDoes not include complete data on physical commodity derivatives and equity options on the common stock of individual companies

Sources: BIS, ISDA, Federal Reserve Bank of New York, Swaps Monitor Publications, Inc., Derivatives Strategy & Tactics, Inc., various annual reports, and GAO analysis

Table 2.2 shows that of the four derivative product types, forwards were the largest percentage of the worldwide market (42 percent). It also shows that options were the smallest percentage of the market (13 percent).

³We did not compare the growth rates of exchange-traded and OTC derivatives in terms of notional/contract amounts. Differences in the operation of the exchange-traded and OTC markets complicate comparisons of derivatives volume for the two types of trading. Offsetting contracts reduce notional/contract amounts held in the exchange-traded markets and add to amounts held in the OTC markets. For exchange-traded derivatives, a clearinghouse is the ultimate counterparty to all transactions, and the clearinghouse closes out buy and sell transactions on identical contracts between participants. However, in OTC trading, an offsetting transaction generally involves a new contract between different counterparties. As a result, the notional/contract amounts of offsetting transactions remain outstanding on financial reports until contract expiration or maturity.

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Table 2.2: Notional/Contract Amounts of Derivatives Held by Product Type From Year-End 1989 Through Year-End 1992

Dollars in billions

Type of derivative product	1989	1990	1991	1992	Percentage of total 1992	Percentage increase from 1989 to 1992
Forwards ^a	\$3,034	\$ 4,437	\$ 6,061	\$ 7,515	42%	148%
Futures	1,259	1,540	2,254	3,154	18	151
Options	953	1,305	1,841	2,263	13	137
Swaps	1,952	2,890	3,872	4,711	27	141
Total	\$7,198	\$10,172	\$14,028	\$17,643	100%	145%

^aIncludes foreign exchange, forward rate agreements, equity, and commodity forwards

Note See appendix IV for methodology

Sources BIS, ISDA, Federal Reserve Bank of New York, Swaps Monitor Publications, Inc., Derivatives Strategy & Tactics, Inc., various annual reports, and GAO analysis.

Derivatives Dealing Activity Is Concentrated Among a Few Major OTC Dealers

About 150 firms were acting as derivatives dealers worldwide as of December 1992, according to ISDA data; however, most dealing activity was concentrated among a small number of firms. A report⁴ sponsored by the Group of Thirty⁵ indicated that eight U.S. bank dealers accounted for 56 percent of the worldwide notional/contract amounts of interest rate and currency swaps as of December 1991. U.S. bank regulatory data indicate that the top seven domestic bank derivatives dealers by notional/contract amounts accounted for more than 90 percent of all U.S. bank derivatives activity as of December 1992.⁶ SEC data show a similar concentration of activity among U.S. securities derivatives dealers. The top five by notional/contract amounts accounted for about 87 percent of total derivatives activity for all U.S. securities firms as of their fiscal year-end 1992. An April 1993 report by the Group of Ten⁷ provided a possible

⁴Derivatives Practices and Principles, The Group of Thirty (Washington, D.C.: July 1993).

⁵The Group of Thirty is an international financial policy organization whose members include representatives of central banks, international banks and securities firms, and academia.

⁶In this report, when we refer to bank regulatory data, we are presenting information for banks from their consolidated holding company reports.

⁷The Group of Ten consists of 11 major industrial member countries that coordinate monetary and fiscal policies through general agreements to borrow and other activities. Group members are Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States.

explanation for this concentration.⁸ It stated that the need for complex information and risk-management systems in conducting derivatives activities has resulted in the concentration of the activity among a few large firms.

The degree of concentration of derivatives dealing activity can vary by product type. For example, a report published by BIS⁹ in October 1992 indicated a relatively large number of dealers for high-volume derivatives with generally lower risk, such as interest rate swaps under 3 years to maturity. The report also indicated a relatively small number of dealers for longer term derivatives with higher risk, such as swaps with more than 3 years to maturity and currency options with more than 6 months to maturity. The BIS-published report found that few institutions were committed to continuously buying or selling the longer term derivatives and even fewer institutions were acting as dealers for more customized derivatives.

Derivatives Have Expanded Linkages Among Institutions and the Markets in Which They Trade

Derivatives have expanded the financial linkages among the institutions that use them and the markets in which they trade. Reports on derivatives, the trading strategies that firms use, past financial crises, and our analysis all provide evidence of these expanded linkages.

Various reports from regulators and market participants acknowledged that growth in derivatives use has expanded the financial linkages among markets and institutions. For example, in its July 1993 report on derivatives, the Group of Thirty stated that international finance and commerce have become increasingly integrated and that derivatives have followed this evolution. The report noted that derivatives have helped further financial linkages by providing opportunities for firms to use products in one market to hedge risks arising from the firms' participation in other markets. The firms themselves are also linked. The BIS report indicated that more than 40 percent of the notional volume of all interest rate swaps, currency swaps, and interest rate options held by ISDA member dealers was for contracts among themselves.

Derivatives also link markets as a result of trading strategies that firms use. For example, one bank we visited had sold OTC call options that

⁸International Capital Movements and Foreign Exchange Markets, A Report to the Ministers and Governors by the Group of Deputies, Group of Ten (Rome, Italy: Apr. 1993).

⁹Recent Developments in International Interbank Relations, prepared by a Working Group established by the Central Banks of the Group of Ten, BIS (Basle, Switzerland: Oct. 1992).

required it to make U.S. dollar-denominated payments to its customers if the prices of certain petroleum products rose in Japan. However, the prices of the petroleum products were denominated in Japanese yen. As a result, the bank conducted transactions in several markets to hedge its risks. The bank used the foreign currency markets to hedge potential changes in value between the dollar and the yen and used the commodities markets to hedge potential changes in the price of petroleum products. Similarly, stock and bond investors often use the futures and options markets to hedge. For example, a pension fund manager told us that the fund uses stock and bond futures to temporarily increase or decrease investments in the underlying cash instruments until the transactions can be executed in the cash markets.

Past crises have also shown how derivatives link markets and institutions. In a 1992 letter to a Member of Congress, a former president of the New York Federal Reserve Bank said that markets for equities and associated derivatives effectively function as one market. This statement reflected the results of various studies of the October 1987 market crash. According to the studies, prices in the stock, futures, and options markets were related, so that disruptions in one were associated with disruptions in the others. The linkages between derivatives and their underlying markets were evident again in the late 1992 turmoil in the European currency markets. Volatility in the cash markets prevented some OTC derivatives in European currencies from being traded for a time. Suspension of some OTC activity led to a spurt of trading in the exchange-traded derivatives markets.

Derivatives dealers are themselves linked by derivatives activity. Our survey results from major OTC derivatives dealers indicated such linkages. According to the 14 responses we received, an average of 37 percent of the total financial obligations created by these firms' derivatives transactions was owed on contracts among these firms and dealers in other countries. The BIS report had similar findings. It said that transactions among derivatives dealers represented about 41 percent of the notional/contract amount of derivatives outstanding as of December 1991.

The portfolio of a nondealer U.S. bank that we visited also demonstrated how derivatives create new financial linkages. The bank had more than 30 counterparties to its derivatives transactions, including 12 U.S. banks, 8 U.S. securities firms, 7 foreign banks, several nonfinancial firms, a foreign securities firm, and a U.S. insurance company. Bank officials noted that the bank's derivatives transactions had created new linkages because it

had not previously done business with some of these firms before entering into derivatives contracts with them.

Regulators and market participants had differing views on the implications of the extent of derivatives use, concentration of activity, and expanded linkages should a financial crisis occur. No empirical evidence was available for determining the actual effects of these characteristics because no crisis caused by derivatives has occurred.

Views Differed on the Effects of Market Size, Dealer Concentration, and Financial Linkages

Concerns Exist That Size, Concentration, and Linkages Increase the Risks to Firms and Markets

Concerned regulators and market participants said that the size and concentration of derivatives activity, combined with derivatives-related linkages, could cause any financial disruption to spread faster and be harder to contain. Because the same relatively few major OTC derivatives dealers accounted for a large portion of trading in a number of markets, regulators and market participants feared that the abrupt failure or withdrawal from trading of one of these dealers could undermine stability in several markets simultaneously. This could lead to a chain of market withdrawals, or possibly firm failures, and a systemic crisis. For example, the Group of Ten's report noted that, because of the concentration of derivatives dealer activity, a credit problem or technology failure at a large dealer could create problems for the overall financial system. Also, the BIS report noted that greater concentration means that the failure of a large dealer would cause larger losses for other participants than if the credit exposures were more dispersed.

A primary concern of regulators and market participants about the failure or abrupt withdrawal from trading of a major dealer is the potential effect of either event on market liquidity. The BIS report noted that because derivatives have made it possible to create positions that span many markets, a liquidity problem in one market could force an abrupt liquidation of contracts in other linked markets, causing all the markets to have liquidity problems. A similar concern of regulators was that the linkages between markets might put unmanageable pressure on the exchanges to maintain orderly markets following a disruption in the OTC markets. U.S. banking regulators reported that the liquidity of OTC derivatives markets could be more easily disrupted than that of exchange-traded derivatives because the selection of potential counterparties for OTC transactions can be limited by creditworthiness concerns and generally nonstandardized contract terms.

Further, BIS reported that the failure of a large derivatives dealer could reduce the willingness of the remaining dealers to continue acting as dealers. The likely result would be further loss of liquidity and extreme price movements. An SEC commissioner, as well as some SEC staff members, expressed concern that liquidity problems could escalate a small financial disturbance into a large one if many dealers attempted to conduct transactions in the same markets to hedge or close out similar derivatives positions at the same time. This sudden increase in volume on one side of the market could move prices by such a large amount that firms would incur large losses.

Regulators and market participants pointed out that past firm failures, such as those of the Bank of New England and Drexel Burnham Lambert (a holding company with a large securities firm affiliate), have not really tested the stability of the derivatives markets, because the derivatives portfolios of these firms were too small to have much effect. However, these failures, while not caused by derivatives, were large enough to require federal intervention. Regulators and market participants cited two past financial disruptions to illustrate the potential for liquidity problems associated with derivatives. First, the difficulty of U.S. securities markets in processing the high volume of trades during the 1987 market crash caused inaccuracies in the displayed prices of both individual stocks and stock indexes. The resulting price uncertainties reduced the liquidity of the futures markets as evidenced by the larger-than-normal difference, or spread, between prices quoted to buy or sell these contracts. Wider spreads meant that either buyers were required to pay more or sellers received less than usual for any trades they conducted during these periods.

Second, derivatives liquidity problems were associated with the turmoil that occurred in various European currency markets from August through November 1992. According to a report by the International Monetary Fund, several OTC derivatives, including foreign exchange forwards, currency swaps, and options, experienced reduced liquidity, and spreads for buying and selling widened significantly. For example, the report noted that almost no forwards in Italian lire were traded for a 2-week period because of dealer uncertainty over short-term interest rates. Trading in OTC currency options also declined greatly during this time. The report stated that the volatility in currency prices and lack of foreign exchange forward prices prevented many dealers from writing options because they were unable to price them accurately.

**Others Were Less
Concerned About Risks**

Other federal regulators and market participants were not as concerned about market growth and disputed the extent of risks posed by market size and concentration. Some said that linkages reduced rather than increased the potential for derivatives to cause or worsen a financial crisis. They pointed out that many financial disruptions have occurred without derivatives liquidity problems or a major dealer failure.

These regulators and market participants said that market size and concentration were not problems. They said that concentration of dealer activity had occurred because of the nature of the business. They also said that the large amount of activity among major OTC dealers reflected customer preference for dealing with prominent firms that have high credit quality and ample capital and that are better able to handle large numbers of sizable transactions. Moreover, they distinguished between concentration of derivatives dealing activity and concentration of risk. The concentration of derivatives dealing activity, they said, did not necessarily reflect an equivalent concentration of risk. They added that concentration was not high in terms of individual types of derivative products. According to these regulators and market participants, most major OTC dealers extensively hedge their derivatives risk. Further, the Group of Thirty report noted that none of the institutions in its survey of the world's largest derivatives dealers had more than a 10-percent share of the total notional/contract amounts of any particular derivative product, such as interest rate swaps. The Group of Thirty report also noted that concentration among firms offering more customized products was not much of a concern because of the small volume of these products compared with other derivatives, such as the most common interest rate swaps.

Some regulators and market participants also believed that derivatives-related financial linkages among firms and markets may act to reduce financial system risk. Although U.S. bank regulators were concerned about the impact of linkages, they noted in a 1993 report¹⁰ that the impact of the European monetary turmoil was less severe than it might have been because of the existence of related derivatives markets. They reported that firms with currency positions were able to switch to exchange markets when OTC contracts were unavailable. As a result, volumes on many futures exchanges around the world reached record levels, according to the International Monetary Fund report. Also, the

¹⁰Derivative Product Activities of Commercial Banks, Joint Study Conducted in Response to Questions Posed by Senator Riegle on Derivative Products, the Federal Reserve Board, Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency (Washington, D.C.: Jan. 1993).

Group of Thirty report noted that derivatives assist in the efficient intermediation of markets and provide effective risk-management tools and techniques. The report stated that linkages associated with derivatives could help reduce a financial disturbance by spreading it among more firms and markets. Further, the BIS report stated that linked markets could act as a safety valve by enabling price changes to be quickly transmitted across markets, thereby helping to diffuse disturbances.

The Group of Thirty report also described how derivatives can reduce dealers' vulnerability to liquidity problems. It discussed how derivatives dealers can isolate the individual risks of a particular product, allowing the firm to manage each risk independently and increasing the number of tools that can be used to manage them. For example, the interest rate risk of a highly customized U.S. dollar interest rate swap can be hedged using forwards, futures, other swaps, Treasury notes, or any other financial product whose value changes with interest rates. Thus, even if a firm's ability to hedge with one product is affected by liquidity problems, it can hedge with other products.

Some regulators and market participants also said that the liquidity of derivatives had been successfully tested. They said that the derivatives portfolios of the Bank of New England and Drexel Burnham Lambert were closed out without causing market illiquidity. Again, events of the European monetary crisis were cited as evidence. That is, liquidity was not a problem during the high-volume trading of the European monetary turmoil when OTC derivatives counterparties were hard to find because dealers and end-users turned to the derivatives exchanges to hedge their risks.

Past Crises Have Required Federal Involvement

If a disruption occurs in the derivatives markets or threatens to spread from other markets to the derivatives markets, federal intervention may be necessary to prevent a disruption from becoming a crisis. Should a crisis arise, federal regulators are likely to be involved in containing and resolving financial problems at banks and thrifts because of the potential risk to the financial system and the potential government liability for losses incurred by the federal deposit insurance funds—the Bank Insurance Fund and the Savings Association Insurance Fund.¹¹ In the past, resolving problems or crises in the financial system has been expensive.

¹¹The Bank Insurance Fund and the Savings Association Insurance Fund are funded primarily through assessments from federally insured banks and thrifts, respectively. Each is administered by the Federal Deposit Insurance Corporation. The proceeds of these funds are used to compensate depositors, if necessary, should a federally insured institution fail.

For example, the U.S. thrift crisis has cost taxpayers hundreds of billions of dollars. On a smaller scale, but also expensive, was the failure of the Bank of New England in 1991, which cost the Bank Insurance Fund about \$1.2 billion. The bank also had a portfolio of derivatives with a notional value of \$30 billion that had to be carefully closed out, unwound, or transferred to other counterparties under federal supervision to avoid market disruptions.

Federal regulators have also been involved in financial disturbances that did not involve banks. For example, when Drexel Burnham Lambert failed in 1990, federal involvement was necessary to keep payments flowing among Drexel's various debtors and creditors and to avoid financial system gridlock. Federal action may have also averted a broader systemic crisis after the 1987 market crash. Federal Reserve officials said that during the crisis they took a number of actions, which included (1) providing liquidity to the financial system through the Federal Reserve's open market operations, (2) contacting major banks regarding their financial obligations, (3) suspending the rules governing the lending of securities to accommodate securities dealers, and (4) extending the opening and closing hours of their electronic transfer system for large dollar payments.

The possibility of federal involvement is particularly an issue for banks because they have deposit insurance and direct ties to the Federal Reserve's discount window. For the most part, bank derivatives trading and other related activities are carried out by the banks themselves rather than in affiliates within the bank holding company. As a result, customers may be more willing to deal with banks, and the banks may be more willing to take on risks because of deposit insurance and discount window access. In our 1991 report,¹² we recommended that nontraditional banking activities only be conducted in separate subsidiaries by well-capitalized and well-managed banks. Although banks have engaged in some derivatives trading for years, the growth in volume and increased complexity of recent derivatives and related trading may have pushed many such activities outside the boundaries of traditional banking.

The likelihood of federal involvement in a crisis may have been increased by recent legislation. The Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) makes it easier for the Federal Reserve to lend directly to all types of financial firms with liquidity needs in a crisis, not just to federally insured banks.

¹²Deposit Insurance: A Strategy for Reform (GAO/GGD-91-26, Mar. 4, 1991).

Derivatives Require Careful Management

Although derivatives can provide economic benefits, dealers and end-users can experience extensive unanticipated losses if they do not carefully manage the risks associated with the use of derivatives. Several large U.S. and international firms have reported extensive losses from derivatives transactions as a result of unanticipated market movements and weaknesses in their risk-management systems. The Group of Thirty and bank regulators have also reported weaknesses in risk management systems of derivatives dealers and end-users. Although strong corporate governance is critical to the success of any risk-management system, it is particularly crucial for managing the risks of complex and potentially volatile derivatives. Boards of directors, senior management, audit committees, and internal and external auditors all have key roles within the corporate governance system to manage the risks associated with derivatives.

The general types of risk associated with derivatives—credit, market, legal, and operations—exist for many financial activities. Therefore, risk-management policies and controls over such activities are also generally applicable to derivatives. However, the specific risks associated with derivatives activities are relatively difficult to manage, in part, because of the complexity of some of these products and the difficulties in measuring their risks.

Until the publication in 1993 of a report sponsored by the Group of Thirty, firms lacked comprehensive guidelines for evaluating their risk-management practices. That report recommended specific derivatives risk-management practices as benchmarks for firms' use. Subsequently, two federal bank regulators issued similar guidance on risk-management practices for the banks they supervise. Neither the Group of Thirty recommendations nor the federal bank regulators' guidance has the weight of federal regulations. However, the 15 major U.S. dealers that we visited described derivatives risk-management systems that generally conformed with them. The Group of Thirty report indicated that not all dealers fully complied with its recommendations. Also, bank regulators found some serious weaknesses in major dealers' risk-management systems. However, regulators and market participants said that improvements have been made in response to the recommendations and guidelines.

Strong Corporate Governance Is Critical to Managing Derivatives Activities

Effective risk-management systems must be capable of responding to rapid and unanticipated changes in portfolio values resulting from volatility in the financial markets. Strong corporate governance, which includes competent supervision by firms' boards of directors and senior management, is needed to ensure that such systems are in place and functioning as anticipated. The audit committees of the boards of directors should provide oversight of internal and external auditor activity to ensure appropriate focus and to ensure that management is not overriding internal controls. Although accountability for controlling the risks associated with derivatives rests with the boards of directors and senior management, auditors play a primary role in testing compliance with risk-management policies and controls. Management accountability for internal controls can be enhanced through annual formal assessments and public reporting on the effectiveness of risk-management policies and controls. Review by the external auditor should enhance the reliability of such reports. The likely effect of such assessments and reporting would be to increase the attention given to derivatives risk management by senior management and boards of directors.

The 15 major OTC derivatives dealers we visited described how their boards and senior managers were involved in controlling derivatives activities. Recent studies of derivatives activities and some of our prior work have shown a need for improvement in corporate governance systems. In addition, significant losses have been reported recently by several participants in the derivatives markets. According to published reports, some of these losses were related to breakdowns in their risk-management systems for derivatives activities.

Corporate Governance Requirements Were Enacted by Congress in Response to Failures of Banks and Thrifts

Our prior work analyzing failed financial institutions, including banks, thrifts, and insurance companies, showed that weak systems of corporate governance were a predominant characteristic of the failed institutions.¹ Our report on the audit committees of the nation's largest banks (those with assets of \$10 billion or more) showed that their committees lacked the independence and expertise that we believed were necessary to properly oversee bank operations.² Congress recognized the link between

¹Failed Banks: Accounting and Auditing Reforms Urgently Needed (GAO/AFMD-91-43, Apr. 22, 1991); Bank Failures: Independent Audits Needed to Strengthen Internal Control and Bank Management (GAO/AFMD-88-25, May 31, 1988); Thrift Failures: Costly Failures Resulted From Regulatory Violations and Unsafe Practices (GAO/AFMD-89-62, June 16, 1989); and Insurer Failures: Regulators Failed to Respond in Timely and Forceful Manner in Four Large Life Insurer Failures (GAO/T-GGD-92-43, Sept. 9, 1992).

²Audit Committees: Legislation Needed to Strengthen Bank Oversight (GAO/AFMD-92-19, Oct. 1, 1991).

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Derivatives Require Careful Management

past failures of financial institutions and weak corporate governance when it enacted FDICIA. This act requires management of large banks and thrifts to perform annual comprehensive assessments of financial institutions' systems of internal controls over financial reporting and to report to federal regulators on the effectiveness of such systems. In addition, FDICIA requires the institutions' external auditors to attest to managements' assertions in a separate report to regulators. FDICIA also requires the applicable institutions to have an audit committee made up of outside directors who are independent of institution management and establishes a reporting link between the audit committee and external auditors. An essential responsibility of the audit committee is to review reports of management and the external auditors. For the largest institutions, FDICIA requires that audit committees include members with banking or related financial management expertise.

Unfortunately, regulations issued to date by the Federal Deposit Insurance Corporation (FDIC) to implement the corporate governance provisions of FDICIA have been limited. FDIC's decision to issue such limited regulations provides much latitude in how banks and thrifts implement the law and lessens the potential of the law to effectively control derivatives and other risk-taking by the banks. Effective implementation of the corporate governance model of FDICIA by major bank dealers and end-users of complex derivative products may require regulators to issue more specific regulations to ensure that the risks of derivatives activities are properly addressed.

We believe that the corporate governance model established by FDICIA has broad applicability to both major dealers and end-users of derivative products. Strong internal control systems; independent, knowledgeable audit committees; and public reporting on internal controls are critical to firms engaged in complex derivatives activities and should play an important role in ensuring sound financial operations and protecting shareholder interests of these firms. Thus, we encourage the boards of directors of major dealers and end-users of derivatives that have not already done so to establish and implement these improvements.

**Management, Directors,
and Auditors All Play
Crucial Roles in Effective
Corporate Governance**

For derivatives market participants, an effective corporate governance system needs to specifically address all areas of risk related to these activities. In each of these areas, the board of directors, senior management (and its designated risk-monitoring unit), the audit committee, internal auditors, and external auditors all have important

roles in an effectively operating risk-management system. The different roles that each of these groups play represent critical checks and balances in the overall risk-management system.

For example, in an effective risk-management system, the board of directors would be responsible for approving the risk-management policies and controls that management proposes. By this approval process, the board would gain an understanding of the types and amounts of derivatives exposures and the impact they might have on the firm under varying scenarios. The board could look to the risk-monitoring unit and the outside auditors to provide an analysis of this exposure before it approves related policies and controls. The board ultimately would be accountable for the level of risk assumed by the firm concerning derivatives. Unless the board were knowledgeable and well-informed, it would become an ineffective link in the risk-management process.

The role of senior management (and its risk-monitoring unit) would be to implement the approved policies and controls to ensure that risks from derivatives activities are (1) within the limits approved by the board, (2) properly analyzed before transactions are undertaken, (3) monitored on an ongoing basis, and (4) comprehensively reported on in a timely manner. For example, policies and controls would be in place to ensure that (1) before entering into transactions, established risk limits were understood, the legality of the related contracts was assessed, an analysis of counterparty financial strength was performed, market factors were considered, and system capabilities to record and track transactions were in place; (2) after entering into transactions, changes in counterparty strength and market factors would be constantly monitored and reacted to as necessary; and (3) the results of derivatives activities and the risk exposures they represent would be reported to the board and senior management on a regular basis. These risk-management activities would be thoroughly documented in order to provide the next link in the risk-management system—compliance testing.

Oversight of testing compliance with risk-management activities would be most effective under the purview of the audit committee. Using the internal and external auditors as its tools, the audit committee would ensure that the approved risk-management policies and procedures were being effectively carried out in the daily operation of the firm and that management was not overriding related internal controls. This function would require systematic identification, testing, and evaluation of the critical internal controls that were designed to ensure compliance with

established policies and procedures. For example, risk-management controls could include requiring approval of transactions based on dollar thresholds, limiting concentrations of risk, monitoring counterparty credit deteriorations, testing the accuracy of counterparty information entered into the monitoring system, and verifying the existence of collateral. The audit committee would also oversee the development and implementation of a program for compliance testing and evaluation of these controls by the internal and external auditors.

Effective oversight by the audit committee would require that committee members be independent of management and have a working knowledge of the risks and exposures of derivatives activities. The committee would have access to legal counsel and to other outside experts, if necessary, to help assess these risks and exposures. In addition, internal and external auditors would need to be highly trained professionals who were capable of evaluating the wide array of complex derivatives transactions and their related risks.

The results of the internal control testing and evaluation would be reported to the audit committee, which would then report such information to the full board of directors. The board and management would take immediate action to correct control weaknesses identified in this process.

Most of the major studies on derivatives activities—which did not specifically focus on the 15 major OTC dealers we visited—have indicated weaknesses in boards of directors' and senior managers' understanding of and controls over derivatives. The Group of Thirty report included, among other things, recommendations on the involvement of boards and senior managers in managing derivatives activities. The report noted that top management at some firms may not have the expertise and involvement needed to adequately address the risks that derivatives pose to their firms. Similarly, the federal bank regulators' joint study on derivatives reported that management needed to increase its awareness and understanding of the nature of the risks assumed in the firms' derivatives activities. Management and boards that do not have a sufficient understanding of derivatives should call upon experts to assist them in gaining knowledge of derivatives and in developing appropriate risk-management systems for the derivatives activities of their firms.

Regulators Play a Role in the Assessment of the Overall Adequacy of Risk-Management Systems

For regulated entities, another important check in the risk-management system is the applicable federal regulator. The regulator has the important role of an outside assessor of the overall adequacy of the risk-management system. Federal banking regulators have been playing this role to some extent. They reported that bank derivatives dealers need to continue enhancing their procedures and infrastructures for managing and controlling derivatives risk as well as committing sufficient financial and managerial resources to developing risk-monitoring systems. We found that bank examiners had identified at least 16 instances where major bank dealers had incomplete or inadequate policies addressing their derivatives activities.

The regulatory role can be enhanced if the regulator establishes standards for prudent risk-management practices for derivatives and reporting requirements that allow for the monitoring of both specific entity and systemwide derivatives activities. The Office of the Comptroller of the Currency (OCC)³ and the Federal Reserve⁴ separately issued guidance for the use of their bank examiners and banks involved in derivatives activities. Both incorporated many of the Group of Thirty recommendations on board and senior management responsibility. This responsibility includes ensuring that derivatives activities are (1) consistent with boards of directors' overall risk-management philosophy and firms' business strategies, (2) conducted in a safe and sound manner, and (3) overseen by an independent risk-management group that has clear authority to carry out its responsibilities.

In previous reports, we have recommended that banking regulators increase the effectiveness and efficiency of their regulatory examinations by focusing more attention on the adequacy of an institution's overall system of internal controls. The types of risk-management practices described in the guidance issued by OCC and the Federal Reserve could be used by regulators not only as a basis for assessing risk-management of derivatives activities but also for assessing the overall risk-management activities of the institution. FDICIA's requirements for management and auditor internal control assessments and reporting, if properly implemented, could efficiently assist examiners in making their assessments. Examiners can use the work of management and auditors to

³Banking Issuance (BC-277): Risk Management of Financial Derivatives, Comptroller of the Currency (Oct. 27, 1993).

⁴Supervision and Regulation Letter 93-69: Examining Risk Management and Internal Controls for Trading Activities of Banking Organizations, Board of Governors of the Federal Reserve System (Dec. 20, 1993).

supplement their examination procedures as long as they adequately review such work.

Reporting on Risk-Management Assessments Is Key to Accountability

Formal, documented assessments of risk-management policies and controls, with public reporting of the results, would help strengthen risk-management systems through increased public accountability of management and boards of directors. This type of formal assessment and reporting helps fulfill (1) the need of investors to know how well their investments are being managed, (2) the necessity for regulators to have an early warning of problems that could lead to future financial deterioration of regulated entities, (3) the obligation of counterparties and other creditors to understand the credit risk associated with these entities, and (4) the desire of the general public to have accountability in our financial system.

Officials from all 15 dealers we visited said that they had documented assessments of risk-management systems and some form of board of director and senior management involvement in monitoring and controlling derivatives activities.⁵ Examples of involvement that some cited included (1) senior managers assessing the institution's risk exposure and establishing policies for derivatives, (2) derivatives managers reporting directly to the board of directors, and (3) executive-level committees establishing and approving the credit and trading limits for derivatives transactions. Nevertheless, the Group of Thirty report found that one-third of the dealers responding to its survey of 80 U.S. and foreign dealers did not involve senior management in authorizing traders to commit firms to transactions.

We found that the external auditors performed some reviews of firms' derivatives risk-management systems in connection with their audits. Some dealers reported publicly on managements' assessments of internal controls. In general, we did not find specific reporting on risk-management systems for derivatives by the dealers. However, the 1993 annual reports of some dealers provided expanded discussion of risk-management practices for derivatives. We did not find public reporting on internal controls, either general or specific, by the external auditors of these major dealers.

⁵We did not attempt to duplicate the extensive industry surveys and description of industry operations done by the Group of Thirty and others. Instead, we talked to major U.S. OTC derivatives dealers about their operations and surveyed them to obtain consistent information about particular risks. (See app. III.)

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Under FDICIA, beginning in 1994, dealers that are large commercial banks and their auditors are required to report to regulators on management assessments of internal controls over financial reporting and safeguarding of assets. These assessments encompass a major portion of the risk-management systems for derivatives. A framework for evaluating and reporting on controls over financial reporting and safeguarding of assets, including the types of risk-management controls over derivatives activities, is now available to management and auditors. This framework, entitled *Internal Control-Integrated Framework*, was issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in September 1992. With a recent addendum concerning safeguarding of assets made at our request, we believe the COSO framework is an effective approach to evaluating and reporting on internal controls. For purposes of public management reporting, the COSO addendum provides the following definition related to safeguarding controls:

"Internal control over safeguarding of assets against unauthorized acquisition, use or disposition is a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the entity's assets that could have a material effect on the financial statements."

The addendum provides a related definition of effectiveness:

"Such internal control can be judged effective if the board of directors and management have reasonable assurance that unauthorized acquisition, use or disposition of the entity's assets that could have a material effect on the financial statements is being prevented or detected on a timely basis."

Formal assessments and reporting on internal controls over financial reporting and safeguarding of assets using the COSO framework will provide a consistent measure of accountability for effective risk management of derivatives and other activities. The likely effect of such assessments and reporting would be to increase the attention to risk management by senior management and boards of directors. Currently, such assessment and reporting requirements and audit committee requirements apply under FDICIA to large insured depository institutions. Because many major derivatives dealers and end-users are not insured depository institutions, these requirements do not extend to them.

A strong system of internal controls is particularly important for major derivatives dealers because the volume and complexity of these activities

require significant reliance on systems. The application of FDICIA's requirements to all major dealers could be an effective means to ensure that their risk-management systems were operating effectively. If the systems were operating effectively, they could help alleviate the risk of a systemic crisis resulting from the failure of one of these dealers. Further extension of these requirements to all major end-users of complex derivatives would greatly increase the accountability of these companies to investors, creditors, and the general public. Such strong corporate governance is not meant to preclude firms from taking risks but is meant to preclude them from taking risks without the knowledge and approval of senior management and the board of directors.

The general types of risk associated with derivatives activities—credit, market, legal, and operations—must each be considered in the design and evaluation of an effective risk-management system. The corporate governance roles of the board of directors, senior management, the audit committee, and the auditors must extend to each of these types of risk. Determining the level of involvement of these various groups depends on the nature and magnitude of the particular risk exposure. A discussion of each of these general risks as it relates to the 15 firms we visited and specific guidance for controlling these risks follows.

Credit Risk Is a Key Consideration in Managing OTC Derivatives

Credit risk is the exposure to the possibility of financial loss resulting from a counterparty's failure to meet its financial obligations. Major otc bank dealers reported that the dollar amounts of credit exposures were generally lower for their derivatives activities than for their traditional loans as of December 1992. Also, for 1992, the major otc dealers reported losses from credit risk of less than one-half of 1 percent of their gross credit exposures. However, managing credit risk can be difficult for otc derivatives because credit exposure can change rapidly. The Group of Thirty recommendations and bank regulators' guidance approached this risk in similar ways. The major otc derivatives dealers we visited described procedures that generally followed these approaches. However, the Group of Thirty report and bank regulators' examinations found weaknesses in the procedures derivatives dealers use to manage credit risk.

Credit Exposure Is Significant, but Losses to Date Have Been Small

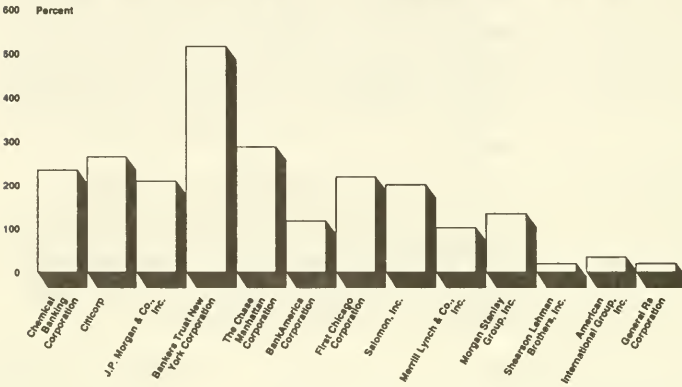
The major otc derivatives dealers put their capital at risk in an attempt to profit from their derivatives activities. Using equity (assets minus liabilities) as a simple measure of capital, we found that for these dealers,

derivatives-related credit exposures were higher than their equity. However, for all but one bank dealer, credit exposure from derivatives was lower than credit exposure from bank loans. For all of the major OTC derivatives dealers, their credit exposures from derivatives were also far lower than the outstanding notional/contract amounts of their derivatives contracts because the notional amount is not exchanged in many derivatives transactions and is not a measure of the amount at risk. The 14 major U.S. derivatives dealers that responded to our survey reported that their combined gross exposure to credit risk from OTC derivatives in 1992 was \$114 billion, or 1.8 percent of their \$6.5-trillion notional/contract amounts.

Our analysis indicated that the reported derivatives-related credit exposures of the major U.S. dealers varied. As shown in figure 3.1, the exposures for the 13 dealers for which information was available ranged from about 19 percent to more than 500 percent of equity capital. This means that the financial condition of some derivatives dealers would be more quickly affected than others by sizable derivatives-related credit losses. As shown in figure 3.1, the gross credit exposure of 10 of the 13 dealers was equal to or greater than 100 percent of equity.

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Figure 3.1: Derivatives Gross Credit Exposures of 13 U.S. OTC Derivatives Dealers as a Percentage of Equity, 1992



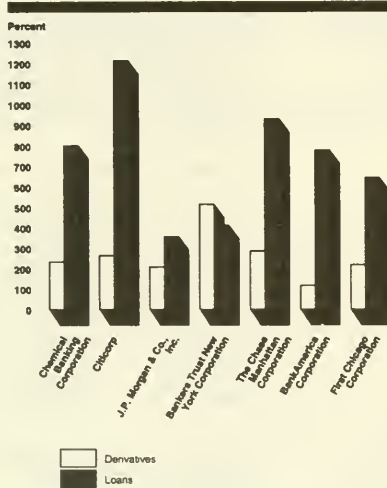
Note: Table only includes data for 13 of the 15 major OTC derivatives dealers because 2 did not make comparable public disclosures.

Source: Annual reports for 1992.

Our analysis of the reported derivatives-related credit exposures of the major U.S. bank dealers also showed that their derivatives activities generally represented less exposure than their lending activities. As shown in figure 3.2, the derivatives-related credit exposures for the seven U.S. bank dealers were, with one exception, much lower than the credit exposure arising from their loans.

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Figure 3.2: Credit Exposures of Derivatives and Loans of Seven U.S. Banks Compared as a Percentage of Equity, 1992



Source: Annual reports for 1992.

Although complete information was unavailable, the data on derivatives-related credit loss experience also showed that these activities had not produced large losses as of year-end 1992. According to data provided by the 14 major U.S. OTC derivatives dealers that responded to our survey, the 1992 total losses incurred by those dealers as a result of derivatives counterparty default was \$250 million, or about 0.2 percent of their combined gross credit exposure. For the 3-year period from 1990 to 1992, these dealers reported incurring total credit-related derivatives losses of about \$400 million.

Assessing and Managing Credit Risk Is More Difficult for OTC Derivatives

Managing derivatives-related credit risk can be difficult because the amount of exposure can change rapidly. Almost all derivatives-related credit exposure in the United States arises from OTC products because derivatives transactions conducted on exchanges are processed by clearinghouses. Clearinghouses guarantee payments between counterparties, thus significantly reducing credit risk for exchange-traded derivatives.

Assessing and managing the credit risk of OTC derivatives requires close monitoring of changes in the market values of these contracts because such changes affect the potential loss from defaults. The market value of contracts changes with fluctuations in the underlying—such as interest rates or foreign exchange rates. For example, if the value of the German mark rises after a firm enters into a forward contract to buy marks at a future date, the contract value will have increased for this firm. However, this increased value can be realized only if the counterparty to the contract meets its obligation. In this way, increases in a contract's value increase the firm's credit exposure. To measure its total credit exposure, a firm with a derivatives portfolio must frequently update the values of its derivatives contracts to determine the impact on credit exposure of changes in market prices and rates.

Guidance Exists for Managing Derivatives Credit Risk

The Group of Thirty report and the bank regulatory guidance state the following three important practices for firms in their management of derivatives credit risk:

- Firms need to fully measure their derivatives-related credit risk and establish limits on the amount of exposure by counterparty. According to the recommendations of the Group of Thirty report, fully measuring firms' derivatives credit exposures requires determining (1) each contract's market value (current exposure) and (2) the potential increase in this market value (potential credit exposure). The second step involves estimating a probable future market value for a derivatives contract, assuming changes in the underlying market prices or rates.⁶
- Firms need to establish a separate, independent credit management function for overseeing customer credit analysis, developing credit limits, and monitoring compliance with these limits. The Group of Thirty recommended that an independent credit risk-management function with clear authority and analytical capabilities be responsible for approving

⁶In a typical interest rate swap, the potential credit exposure increases early in the life of the swap and then declines as the maturity date nears.

standards used to measure credit exposure for all activities, not just derivatives, setting credit limits and monitoring their use, reviewing credits and concentrations of credit risk, and reviewing and monitoring risk-reduction arrangements.

- Firms need to use bilateral netting agreements to reduce their credit exposures with individual counterparties. Such agreements allow parties to combine payment obligations arising from multiple transactions into one net payment and also allow them to create only one obligation in the event of one party's default or failure.⁷

Major U.S. Dealers Manage Credit Risk in Various Ways

Officials of the major U.S. derivatives dealers we interviewed described managing their derivatives-related credit risk in ways that generally conformed to recommendations by the Group of Thirty and guidance provided by bank regulators. Officials of these dealers said that their firms operated with independent credit risk-management functions, had established credit limits, and used netting agreements. In addition, they said that their firms reduced credit risk by conducting most of their derivatives transactions with counterparties that had high credit ratings.

Each of the 15 major OTC dealers we visited reported having an independent credit risk-management group. These groups were described as being responsible for analyzing the creditworthiness of potential derivatives counterparties, setting limits on such exposures, and monitoring compliance with these limits. For example, officials of one firm told us that its separate credit management department had established nine categories of creditworthiness for derivatives counterparties. The officials said that the department used these categories to set varying limits on the amount of derivatives transactions that could be made with firms in these categories. They said that the credit management department was separate from the derivatives trading departments and reported directly to this firm's senior management.

⁷In addition to bilateral netting, multilateral netting has the potential to further reduce credit risk. Under multilateral netting, each participant has one obligation that results from netting its positions with those of all other participants in the multilateral netting system. Multilateral netting reduces the amount of money subject to settlement risk (the risk that funds and/or financial instruments will not be exchanged as anticipated) by releasing capital currently used to support derivatives transactions. In this way, multilateral netting can reduce systemic risk. However, it also has the potential to increase systemic risk by concentrating risk in a central counterparty and increasing incentives to expand derivatives activities to lower credit counterparties. While multilateral netting systems exist for exchange-traded derivatives, no major multilateral netting system exists for OTC derivatives. Commercial banks are developing proposals to establish such systems for certain OTC foreign exchange contracts, but progress has been slow. (See Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries, BIS (Basle, Switzerland: Nov. 1990).

Officials of each of the 15 dealers also told us that they had established credit risk limits and systems to ensure firms' observance of the limits. Features of their credit risk-monitoring practices included (1) using automated systems to quickly determine whether a counterparty's limit had been exceeded; (2) checking compliance at the end of the day and directing instances of exceeded limits to management for action; and (3) requiring traders to seek prior management approval for some transactions, such as those exceeding a certain dollar threshold.

The 14 dealers that responded to our survey reported they were using netting agreements to reduce credit risk. According to our survey, a combined total of about 75 percent of OTC derivatives notional/contract amounts were subject to netting agreements for the 12 firms that provided specific information as of December 1992. The 14 dealers that responded to our survey reported that their combined gross exposure to credit risk from OTC derivatives as of December 1992 was \$114 billion. This amount was reduced to about \$68 billion after taking into account netting agreements, collateral, and other credit risk reduction techniques.

The 14 dealers also said they reduced their credit risk by conducting most of their derivatives activities with counterparties of high credit quality. Twelve firms reported that 94 percent of both their notional/contract amounts and credit exposure as of December 1992 was with investment grade counterparties. That is, most of their counterparties had BBB or Baa and higher credit ratings.⁸ We also developed information that confirms the high credit quality of most derivatives counterparties. From publicly available data, we identified 200 firms with swap portfolios of at least \$1 billion as of year-end 1991. These firms included many financial institutions and commercial firms. As shown in table 3.1, 97.5 percent of the total \$5.5 trillion of outstanding notional amount of swaps held by these firms was recorded by firms that had investment grade ratings. Only 2.5 percent of the total was recorded by firms with noninvestment grade ratings.

⁸According to major credit rating agencies, Standard & Poor's/Moody's, AAA/Aaa through BBB/Baa ratings are investment grade, respectively. AAA/Aaa are the highest rating indicating that capacity to repay debt is extremely strong. AA/Aa indicate a very strong capacity to repay differing from AAA/Aaa only in a small degree. A indicates a strong capacity to repay although with somewhat more susceptibility to adverse effects of changes in circumstances and economic conditions than in the higher rated categories. BBB/Baa indicate an adequate capacity to repay but with somewhat more susceptibility to adverse effects of changes in circumstances and economic conditions than in the higher rated categories.

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Table 3.1: 1993 Credit Ratings of 200 Companies With More Than \$1 Billion in Swaps Outstanding as of Year-End 1991

Dollars in billions			
Credit rating	Number of companies	Outstanding notional amounts of swaps	Percent
AAA or Aaa	21	\$535	9.7%
AA or Aa	34	1,747	31.7
A	78	2,023	36.7
BBB or Baa	38	1,066	19.4
Total investment grade	171	\$5,371	97.5%
Speculative	15	30	0.6
Unrated	14	106	1.9
Total noninvestment grade	29	\$136	2.5%

Sources: Swaps Monitor Publications, Inc., Derivatives Strategy & Tactics, Inc., and various annual reports

The likelihood of default losses on investment grade credit exposure is low, on the basis of historical performance. A major credit-rating agency tabulated the performance of 4,000 bond issuers over a 22-year period. It found that the worst 1-year default rate for investment grade issuers was 1.1 percent for those firms that had Baa ratings within the prior year. The demand for a top credit rating among OTC market participants has provided an incentive for derivative dealers, whose credit ratings are below AAA and AA, to create separately capitalized, credit-enhanced AAA subsidiaries. These subsidiaries have ratings higher than their parent firms primarily because capital is segregated in the separate subsidiaries.

Weaknesses in Credit Risk-Management Procedures Have Been Found

The recommendations of the Group of Thirty and the guidance of federal bank regulators were based on weaknesses that the Group of Thirty and the regulators each had discovered in the procedures of various derivatives dealers. According to survey results published in the Group of Thirty report, 25 percent of the 80 dealers surveyed did not monitor counterparty exposures on at least a daily basis. Although most dealers regularly updated and monitored the market values of their derivatives (their current exposure), about 78 percent did not frequently adjust the total estimated credit exposures to account for changes in the potential credit exposures of individual transactions. Not adjusting these amounts can lead to inaccuracies in calculations of a firm's total credit risk.

In its dealer survey, the Group of Thirty also found that most firms' risk-management systems were incapable of monitoring

derivatives-related credit risk across products and activities. The systems used by about half of the dealers did not aggregate exposures from derivatives and nonderivatives activities across all products and all business lines. Of these, about half planned to introduce this capability. Without this capability, a firm could extend credit that exceeded previously determined limits. About 66 percent of the dealers surveyed also had not integrated their derivatives-related credit risk-management systems with those for other activities, such as loans. And less than half of these planned to make this improvement.

Bank regulators have cited major U.S. bank derivatives dealers for credit risk-management weaknesses, such as failure to set or follow risk limits. For example, one institution did not always document credit approvals for derivatives transactions. Another institution was not monitoring its credit exposures with counterparties on a global basis. Because of these weaknesses, these institutions could not ensure that they would not exceed their counterparty limits.

Managing Market Risk for Derivatives Can Be Complex

Another derivatives-related risk is market risk. As defined in chapter 1, market risk is the exposure to the possibility of financial loss resulting from unfavorable movements in interest and currency rates as well as equity and commodity prices. A key step in managing market risk is measuring it. Accurately measuring derivatives market risk is dependent upon accurate derivatives pricing. However, pricing can be difficult because derivatives' values are affected by many factors. The Group of Thirty recommendations and regulatory guidance proposed similar practices for managing market risk. And the major U.S. dealers we visited described practices that were generally like those proposed. However, the Group of Thirty and federal bank regulators have identified weaknesses in the practices derivatives dealers follow in managing market risk.

Measuring and Managing Derivatives Market Risk Can Be Difficult

Accurately measuring the market risk for derivatives portfolios requires the use of modern computer systems and software that rely on the most advanced mathematical, statistical, and database techniques. One aspect of derivatives that makes measuring and, therefore, managing market risk difficult is that their values are influenced by many different factors. For example, the value of a portfolio of foreign exchange options is affected by changes in exchange rates, interest rates, and the length of time remaining before the options expire.

Increased difficulty in properly assessing the extent of some derivatives' market risk also arises because OTC products lack centralized markets, such as exchanges, where prices are readily disclosed. Instead, dealers of OTC derivative products use sophisticated mathematical models to compute a product's value using various factors. Sometimes, the factors used in these calculations are assumptions that can vary depending on characteristics, such as the periods selected to calculate their value.

The market risk of derivatives can also be difficult to measure because the values of some of these products can change in different proportions than the assets or rates that underlie them. For example, if the exchange rate between two currencies changes by 5 percent, the value of a foreign exchange forward involving these currencies would change roughly symmetrically, or by about 5 percent. However, the value of options involving these currencies would not change symmetrically. The asymmetrical movement in option prices makes measuring their market risk and, therefore, appropriately managing it more difficult, especially as the size of a firm's portfolio grows.

Further, the development of more complex derivative products, such as hybrid derivatives, complicates pricing and, therefore, measuring and managing market risk. Hybrid derivatives are composite products that can include two or more underlyings that can determine pricing and payout (profit or loss). However, the two or more underlyings cannot be isolated or decomposed into independent single underlyings. As a result, while hybrids can be more economical (for example, composite options are less costly than a portfolio of options on every underlying), the risk of mispricing can be greater.

Finally, measuring the extent of market risk of derivative products alone is not sufficient to understand the firm's total market risk. Derivatives might be used in conjunction with other assets and liabilities. As discussed in chapter 1, a forward contract might be used to hedge the future value of a firm's cash in another currency. As the exchange rate fluctuates, the value of the forward contract and the value of the cash will change in opposite directions. Therefore, determining the firm's market risk requires assessing the market risk of both positions in relation to each other. These assessments can get extremely complicated for the major OTC derivatives dealers, because they do not hedge each asset or liability individually. Rather, they might hedge different combinations of assets and liabilities together using different combinations of derivatives. Determining their

total market risk requires assessing the relationships and changes in values of their entire portfolio.

Although only limited data exist on the extent of unanticipated losses due to market risk involving derivatives, the available information indicates that such losses can be significant. As indicated in chapter 1, while leverage provides a less expensive way to profit from market value changes, it can also lead to potentially large losses. For example, a futures contract to buy \$100,000 of U.S. Treasury bonds can be purchased by a deposit of as little as \$1,500. However, if the price of these bonds declines by only 1 percent, the value of this futures contract would decrease by \$1,000, or 66 percent of the amount deposited. We could not identify any aggregate data on losses resulting from derivatives activities, but recent regulatory and press reports have indicated that commercial firms that are end-users have suffered large losses by either speculating using derivatives or failing to properly manage attempts to hedge their business activities. For example, one large international firm lost more than \$1 billion in derivatives transactions after market prices moved against its derivatives transactions.⁹

Guidance Exists for Managing Market Risk

The Group of Thirty recommendations and federal bank regulatory guidance encourage dealers to include in their risk-management systems two primary elements. First, systems should be able to measure and limit exposure to market risk losses. This requires firms to value all their derivatives using market values—called mark-to-market. Federal Reserve guidance recommends that banks mark-to-market their derivatives portfolios at least daily. It also recommends that banks have systems that assess the impact of price movements¹⁰, or exposure to loss, of a given probability over a specified time on derivatives. In addition, the guidance recommends that boards of directors set approved limits on such exposures to loss. Second, systems should stress test, or simulate, the impact that various changes in market prices and rates would have on the value of a firm's derivatives portfolio. For example, Federal Reserve guidance expects the banks to analyze its ability to withstand changes in

⁹According to the Commodity Futures Trading Commission (CFTC) and various trade journals, in late 1993, the U.S. subsidiary of a large German commodities firm reportedly incurred extensive losses on various OTC and exchange-traded derivatives contracts after oil prices moved against the firm. Financial assistance arranged by Deutsche Bank, a part owner of the firm, reportedly involved more than 120 international banks and about \$2 billion to resolve the crisis. According to news accounts, poor operations controls were responsible for allowing the losses at this firm to grow to such levels. Reports are also beginning to appear about unanticipated derivatives losses totaling in the hundreds of millions of dollars by some U.S. firms.

price resulting from market events or changes in market participant behavior that could have adverse effects.

Dealers Report Using a Variety of Ways to Manage Market Risk

All 15 major U.S. dealers we visited described having risk-management systems that included limits on their market risk exposure and stress testing procedures, although the way each firm's system operated varied. The 15 dealers said they valued their derivatives portfolios on a mark-to-market basis and had limits on their exposure to market risk. Often these dealers had overall limits that included limits on the amount of exposure that could be incurred by different organizational units, products, or individual traders.

The dealers measured these limits in various ways. For example, one official said that the firm used earnings-at-risk limits that established the maximum amount of earnings the firm was willing to risk in its derivatives portfolio. An official of another firm said the firm set limits based on a daily measurement of the maximum amount it could lose on its derivatives positions over the next year. This firm's risk-management system produced a report of these amounts across risk categories, including interest rates, equities, commodities, and various foreign currencies.

The systems these dealers used to report their market risk exposures also varied. We were told about (1) a system capable of updating the values of all positions almost immediately, giving management knowledge of the current value of the firm's derivatives holdings; (2) a system that provided traders and supervisors instant access to information on individual trader's positions and provided daily consolidated reports to management; (3) a system that compiled the value of derivatives holdings on a global basis; and (4) a system that consolidated all positions in specific geographic areas but not for the firm as a whole.

The 14 dealers that responded to our survey reported that they stress tested their portfolios to determine the effects of movements in market prices on portfolio value, including the firms' derivatives. The tests were intended to simulate price changes based on historical volatilities over, for example, a 2-year period. The actual periods used by other firms varied.

Weaknesses in Market Risk-Management Procedures Have Been Found

The Group of Thirty and federal bank regulators have identified some weaknesses in the procedures derivatives dealers used to manage market risk. Of the 80 U.S. and foreign derivatives dealers that the Group of Thirty surveyed, 15 percent indicated they did not mark their derivatives trading portfolios to market. Large dealers more frequently reported having systems that marked derivatives to market than did small ones. Also, 39 percent of the dealers surveyed did not stress test their portfolios to determine the impact of unexpected market changes on their derivatives portfolios; 20 percent of the large dealers in the survey were not using this technique.

Bank examiners have identified weaknesses in procedures used by major U.S. bank dealers to control market risk. For example, bank examiners identified at least 12 instances of these banks failing to accurately value their derivatives positions. At one institution, regulators found that the bank had not yet developed earnings-at-risk limits for all the derivative products it was trading. At another bank, regulators found that the institution's risk limits for changes in the value of interest rate products with different maturities were not sufficiently detailed to limit losses that could occur if interest rates did not change equally for all maturities.

Various Factors Affect Legal Enforceability of Derivatives Contracts

A third type of derivatives-associated risk is legal risk—the possibility of financial loss resulting from an action by a court or by a regulatory or legislative body that invalidates a derivatives contract or prior derivatives transactions. Legal risk is associated primarily with OTC contracts in the United States because the legal standing of exchange-traded derivatives is better established. The management of legal risk requires anticipating events that could affect the enforceability of contracts. To date, we are aware of one case involving action by a legal body that produced relatively large losses for some dealers. The Group of Thirty report and bank regulatory guidance address legal risk in derivatives activities, and firms report using a variety of ways to manage this risk.

The primary legal risk for derivatives is that a court or other body will find the contract to be unenforceable. For example, the terms of a derivatives contract may violate a law. Until recently, users of swaps and other OTC derivatives in the United States faced the risk that a court would invalidate their contracts as illegal off-exchange futures contracts. The Commodity Exchange Act (CEA) requires that any trade in a futures contract be executed on an exchange designated by CFTC. Although CEA does not define a futures contract, administrative and judicial decisions have

applied the term broadly enough to potentially include swaps and other derivatives that have futures-like characteristics. A judicial decision defining one of these contracts as a futures contract would have both invalidated the contract and called into question the legality of many OTC derivatives activities.

Without resolving whether any OTC derivative was a futures contract, CFTC substantially reduced this legal risk by using authority that the Futures Trading Practices Act of 1992 granted it to exempt swaps from most CEA provisions, including the exchange trading requirements. However, the exemptive provision does not completely eliminate the risk that a swaps contract could be found to violate CEA. Furthermore, it does not apply to swaps whose payments are based on the prices of securities or securities indexes.

The potential for derivatives to be found in violation of existing laws also exists in other countries. The Group of Thirty reported that some derivatives continue to face uncertain treatment under gambling statutes in Brazil, Canada, and Singapore.

Another source of legal risk is that a party to a derivatives contract may be deemed to have lacked the authority to have entered into the contract. A legal decision of this kind in the United Kingdom produced some of the largest derivatives losses that have occurred to date. In this case, a court found that a local government council lacked the legal authority to enter into derivatives contracts. That decision invalidated the council's swaps and other contracts. As a result of the decision, the derivatives contracts of approximately 130 such local councils were invalidated, resulting in losses of about \$178 million to more than 75 derivatives dealers.

Even when a contract is valid, a court or other organization may not give effect to a material contract provision. For example, many derivatives dealers and users are concerned about the enforceability of netting agreements. As discussed previously, netting is a means of reducing the credit risk associated with OTC derivatives contracts. Counterparties to a series of contracts agree to offset their reciprocal payment obligations against each other and exchange a single payment representing only the difference. Netting thereby reduces their credit exposures by preventing one counterparty that becomes insolvent from suspending its payments, while at the same time demanding performance by its counterparty. Recent changes in U.S. law have made the enforceability of netting virtually certain; however, questions remain about the enforceability of

some netting agreements. Because the law does not explicitly address cross-product netting, doubt remains about the enforceability of all agreements to net across product types. That is, to net a swaps amount against a forwards amount is still in doubt.

The enforceability of netting in other countries is uncertain. The Group of Thirty report, which considered legal opinions addressing derivatives issues for the United States and eight other countries, stated that although many of these countries had taken steps to increase the legality of netting agreements, more could be done to increase certainty. For example, the report noted that in Australia no specific law provided for the netting of obligations and that in Japan no court precedent supported netting.

The bank regulatory guidance recommended similar procedures for limiting legal risk. It indicated that banks should reasonably satisfy themselves that their counterparties have the legal authority to enter into transactions. In addition, it recommended that banks satisfy themselves of the legality of the terms of any contract governing their derivatives activities with a counterparty.

All 11 major U.S. derivatives dealers that responded to the legal risk part of our survey described similar methods of limiting the legal risk in derivatives activities. These dealers indicated that their legal departments assessed the enforceability of their derivatives contracts and, when appropriate, obtained legal opinions regarding counterparties' authority to enter into contracts.

Major OTC Derivatives Dealers Reported Using Sophisticated Systems to Manage Operations Risk, but Weaknesses Have Been Identified

The last risk in derivatives activities that we discuss is operations risk—the exposure to the possibility of financial loss resulting from inadequate systems, management failure, faulty controls, fraud, or human error. The Group of Thirty and bank regulators have recommended ways to address operations risk, and the major OTC derivatives dealers' descriptions of their systems generally included some of the same recommended elements. However, the Group of Thirty and regulators have identified weaknesses in derivatives dealers' management of operations risks. Further, while the losses we reported earlier resulted from unexpected market movements, the magnitudes involved reflect a breakdown in operations controls. Only such a breakdown could allow losses to grow so large before being detected.

Managing derivatives' operations risk requires developing the procedures and controls needed to ensure the effective management of the other basic types of financial risk, including credit, market, and legal risks. The Group of Thirty indicated that the procedures and controls of derivatives dealers should be adequate to ensure that derivatives transactions are recorded accurately; risks are measured fully; and traders comply with all required policies, procedures, and limits. The complex nature of many derivatives transactions increases the difficulty of developing adequate procedures and controls. For example, determining the value of most derivative products requires complicated mathematical calculations that are not easily done, especially on a daily basis, without advanced computer systems and skilled personnel.

The Group of Thirty recommendations and bank regulatory guidance provided similar procedures for controlling the operations risk of derivatives. They recommended that firms

- invest in qualified personnel and comprehensive risk-management systems that are commensurate with the scope, size, and complexity of their activities and risks;
- establish credit risk-management and market risk-management functions that are independent of trading personnel; and
- conduct internal audits of their derivatives activities to ensure that policies, procedures, and limits related to derivatives are being followed.

All 15 major U.S. derivatives dealers we visited told us they had controls over their derivatives activities. Examples they cited included the separation of duties between trading and administrative staff, independent transaction confirmations, and independent pricing of their OTC portfolios.

A specific example of a control used by the dealers we visited was that they generated information on their derivatives trading activities from two separate groups. The groups were traders, those who contact customers and do transactions, and administrative staff, those responsible for accounting and systems operations. Each group reported trading totals and estimated exposures daily and then compared the reports for consistency. These dealers emphasized the importance of good communication between both groups, pointing out that each must provide a check on the other, while having segregated duties and independence in key activities.

Although the major dealers attempted to control their operations risk, the Group of Thirty report noted that firms using derivatives should increase their efforts to hire additional qualified staff to administer support functions. The report found that the transaction confirmation function was fully automated at 40 percent of the dealers, partially automated at 10 percent of the dealers, and not automated at 45 percent of the dealers.¹⁰ Of the dealers that were partially automated or not automated, 80 percent planned to automate completely. Finally, the Group of Thirty found that one-third of the dealers that responded to its survey did not involve senior management in authorizing traders to commit the firm to transactions.

Effective management of operations and other derivatives risks requires a strong system of corporate governance. Earlier we discussed the importance of instituting such systems for major derivatives dealers and end-users. While the Group of Thirty report and regulators' guidance address some aspects of corporate governance, we do not believe they alone are enough to ensure that derivatives risks will be effectively managed.

¹⁰These percentages are quoted from the Group of Thirty report. They did not add to 100 percent.

Bank Regulators Are Improving Their Derivatives Oversight, but Weaknesses Remain

To better ensure the safety and soundness of individual banks and the U.S. financial system, federal bank regulators oversee all bank activities, including derivatives activities. Regulators use three primary means to oversee bank activities: reviewing required reports; requiring adherence to minimum capital standards; and conducting periodic examinations to verify compliance with reporting, capital, and other regulatory requirements. Although bank regulators have proposed improvements to the reports banks submit, information banks are currently required to report on credit risk exposures and derivatives earnings is insufficient for regulators to use in monitoring and identifying potential problems of major bank or derivatives dealers. Also, although minimum capital standards are designed to protect against credit risk losses from derivatives, banks' capital standards do not completely address the other risks of derivatives activities. Efforts are under way to expand these standards. Finally, bank regulatory examinations, which are critical to effectively monitoring the risk-management practices of the major bank dealers, cover derivatives activities but do not comprehensively assess and document internal controls over these activities. Bank regulators have taken other actions to address the risks associated with derivatives activities, including issuing guidance and sharing information in interagency forums.

Various Organizations Are Responsible for Overseeing Banks and the U.S. Financial System

A primary purpose of federal banking regulation is to better ensure the safety and soundness of individual banks and the U.S. financial system. Federal bank regulators monitor the financial soundness of federally insured banks to protect depositors' interests and to minimize potential losses to the Bank Insurance Fund. In addition, the Federal Reserve is responsible for ensuring the overall stability of the U.S. financial system by serving as a lender of last resort for banks and other institutions.

Four federal regulators oversee banks and thrifts, and these institutions may also be subject to oversight by state regulatory authorities. Banks with national charters are overseen by OCC. State-chartered banks that are members of the Federal Reserve are overseen by the Federal Reserve as well as by state-level banking authorities. The Federal Reserve also oversees bank holding companies. Federally insured state-chartered banks that are not Federal Reserve members are subject to the oversight of the FDIC and state banking authorities.¹ Thrifts are overseen by the Office of Thrift Supervision and, if not federally chartered, by state authorities.

¹FDIC also has some backup supervisory responsibilities for all federally insured depository institutions, even those primarily overseen by the Federal Reserve, OCC, and the Office of Thrift Supervision.

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Of the top seven U.S. bank derivatives dealers included in our study, four are overseen primarily by OCC, and the other three are primarily regulated by the Federal Reserve and state banking authorities. We did not identify any thrifts that were derivatives dealers. As a result, the following discussion does not include thrifts overseen by the Office of Thrift Supervision.

Regulators Are Not
Collecting Sufficient
Information on Credit
Risk and Earnings

To monitor the level of risk and the financial health of banks, regulators require banks to periodically report information on their operations, including their derivatives activities. As of April 1994, the derivatives-related information in reports banks were required to file was limited to total notional/contract amounts, total aggregated derivatives-related credit exposure, and total aggregated trading-related earnings from derivatives and other trading activities. However, bank regulators did not receive information such as large individual counterparty credit exposures or the source and amount of derivatives earnings. As a result, bank regulators cannot adequately monitor the credit risk of major OTC bank derivatives dealers or identify the way these dealers use derivatives. Bank regulators have recently proposed collecting additional information on banks' derivatives notional/contract amounts and market values, but these proposals do not include individual counterparty credit exposures or sufficient detail on derivatives earnings.

Current Reporting Is
Incomplete

Reporting requirements are a means for bank regulators to monitor the financial condition of banks, including their derivatives operations. The current requirements for collecting information on the notional/contract amounts of derivatives activities are designed to enable bank regulators to identify the major market participants and monitor market trends. They also assist regulators in determining where best to apply examination resources at individual institutions.

As of April 1994, information that regulators were collecting on the total aggregated derivatives-related credit exposure provided them with only a limited and infrequent measure of the risk derivatives pose to these institutions. More detailed and frequent information on individual counterparty derivatives-related credit exposures would enable regulators to better ensure the safety and soundness of bank derivatives dealers and respond effectively in case of a market disruption. It would, for example, enable regulators to identify specific concentrations of credit exposure large enough to affect a bank's financial soundness. Identifying large credit

exposures to classes of counterparties, such as those in a particular industry or country, could be especially useful if the economic prospects or financial conditions of those counterparties changed over time. If a large derivatives dealer failed or developed financial problems, regulators could also use counterparty exposure information to identify the institutions to be contacted first as part of mitigating a crisis or resolving a failure.

Banks—including the seven major bank derivatives dealers we identified—have been required since 1990 to more precisely report the notional/contract amounts of their derivatives activities. These reports are required quarterly and are to include separate totals for interest rate and foreign exchange derivatives and a combined total for equity and commodity derivatives. For each of these types of derivatives, banks report a combined total for forwards and futures and separate totals for options and swaps.² Each quarter, banks also report their total derivatives-related credit exposure, aggregated for all counterparties.³ Separate totals are reported for interest rate and foreign exchange rate contracts, with subtotals reported for contracts maturing in 1 year or less and those maturing in more than 1 year.

Derivatives' credit exposures change continuously as positions, rates, and prices change. The major bank dealers monitor their performance at least daily, with many doing so more frequently. Major changes in exposures can occur often. Thus, regulators, who receive banks' reports quarterly, run the risk that they will miss potentially damaging changes in credit exposures. Regulators need immediate access to information such as individual firm and aggregate credit exposures to anticipate or respond to a financial crisis.

Regulators do not require banks, including the major bank derivatives dealers, to routinely report information about large derivatives-related credit exposures to individual counterparties or classes of counterparties. Information on individual banks is available, however, to the regulatory staff during on-site examinations. The importance of such information for regulators was illustrated during an examination of a large bank derivatives dealer. After requesting a listing showing all counterparty

²Separate notional/contract amounts are reported for options written and options purchased.

³Total derivatives-related credit exposure is measured by the total replacement cost for contracts that have a positive market value. Exchange-traded products are excluded from these totals if they are subject to daily payment of margin, which greatly reduces their credit exposure. Foreign exchange contracts with maturities of 14 days or less are excluded because their replacement costs are usually small.

exposures, the regulatory staff noted that the bank had accumulated large derivatives-related exposures to a group of foreign banks whose financial condition had deteriorated. As a result, the regulatory staff required bank officials to brief them on efforts to more closely monitor and reduce these exposures, if it became necessary. By not requiring banks to routinely report this type of counterparty information, bank regulators may miss future opportunities to act before significant losses are incurred.

Regulators Have Proposed Collecting Some Additional Information on Derivatives Amounts and Credit Exposures

Bank regulators have proposed expanding derivatives-related reporting requirements, but their proposal does not require banks to report sufficient information on their credit exposures. On March 9, 1994, the Federal Financial Institutions Examination Council (FFIEC), which prepares policies and guidance on behalf of all the federal bank and other depository institution regulators, issued a proposal that would require banks to provide additional details on their derivatives notional/contract amounts by product. The proposal would require banks to report separate totals for futures and forwards, which are currently reported together, and to provide separate totals for exchange-traded and OTC options.⁴ Regulators noted that the additional reporting would enhance their understanding of the risks of bank activities should a systemic disruption develop in a particular market.

The FFIEC proposal also would require that banks with total assets of at least \$100 million begin reporting the total market value of their derivatives for contracts with both a positive market value and a negative market value. This reporting would be done separately for derivatives held for dealing or trading purposes and for derivatives used for hedging or other purposes. Finally, the FFIEC proposal would require banks to report additional information on derivatives-related credit exposures but not information on exposures by individual counterparty. With the proposal, FFIEC intends that banks report their net current credit exposure across all products and counterparties after taking into account legally enforceable bilateral netting agreements, which banks use to reduce their derivatives-related credit risk. The proposal notes that these amounts would provide a more accurate measure of the credit exposure arising from derivatives activities. However, because the proposal would not require more frequent reporting on credit exposures to individual counterparties, bank regulators would still lack sufficient information to routinely monitor credit risks at individual banks or across institutions.

⁴Similar to the current requirement for options, separate notional/contract amounts would be reported for options written and options purchased.

Current Reporting Is Insufficient to Monitor Bank Derivatives Earnings

Regulators require banks to report their earnings as a means of monitoring their continued profitability. The Group of Thirty report also recommended that derivatives dealers routinely identify and isolate the individual sources of derivatives revenues to increase their understanding of the risks and returns of these activities. Identifying the profits or losses arising from proprietary trading, investments, and fees could indicate how well banks are managing their derivatives risks; this indication could be especially useful to regulators as derivatives activities increase.

Information such as details on the sources and amounts of derivatives earnings would also allow regulators to assess the stability of these earnings. Receiving information on proprietary trading income would be useful for regulators because such income is usually considered more volatile and thus less reliable than earnings from activities undertaken on behalf of customers. Receiving information on earnings by product type would also be useful to regulators, because the amount of volatility and of risk varies among products. For example, a bank writing options earns premium income but faces potentially large losses if price moves are adverse and the options are exercised. Information on the source and amount of bank derivatives earnings would also assist regulators in determining the adequacy of the capital and risk-management systems used to support derivatives activities.

Receiving information on derivatives earnings is increasingly important as derivatives activities grow at major bank dealers and provide a larger proportion of total revenues. For several of the dealers we visited, derivatives and other trading activities were a significant source of revenues for their firms. One dealer used derivatives as a primary business strategy in managing customers' financial risks. For the eight major U.S. OTC derivatives dealers that responded to the question in our survey, OTC derivatives activities accounted for an average of 15 percent of pretax income. In analyzing information reported to bank regulators, we found that the percentage of income earned by the seven major bank derivatives dealers from total trading activities, including derivatives, grew from about 4 percent of these banks' combined gross revenues in 1986 to more than 10 percent by the end of 1992, an increase of 142 percent. For two of these banks, those revenues had grown to about 25 and 34 percent of their gross revenues.

Bank regulators do not routinely collect information on the sources and types of derivatives-related earnings from banks. Under current regulatory reporting requirements, the major bank derivatives dealers and other

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banks are to report their derivatives-related earnings aggregated with the results of other trading activities. More detailed information on derivatives' contributions to earnings was generally available to regulatory staff during periodic examinations. However, such information was developed by bank or examination staff and, therefore, was not always available for analysis between examinations.

FFIEC has proposed expanding bank reporting requirements to obtain more detailed information on bank derivatives earnings quarterly, but the proposal would not require banks to report sufficient information on the sources of this income. It would require banks to report the amount of income earned from derivatives separately from other kinds of income. However, the income reported for derivatives does not distinguish between income from dealing or trading activities. In addition, the proposal would require banks to report the increase or decrease in net interest income and net interest expense that arises from other derivatives activities. While the proposal would expand the information bank regulators collect on derivatives earnings, it would not require the collection of information on the type of earnings, such as by activity (proprietary trading versus customer requests) or by product (written options or swaps). Therefore, regulators would lack ready access to information needed to adequately assess the risks of bank derivatives activities, such as information for distinguishing between profits or losses from normal operations and those from increased risk-taking.

Existing Bank Capital
Requirements for
Derivatives Currently
Do Not Address All
Risk

Bank regulators impose minimum capital requirements both to provide protection and to warn that losses from a bank's activities may threaten its safety and soundness. As of April 1994, regulatory capital requirements were intended to provide protection against losses arising from derivatives credit risk, but did not yet completely address losses from market, operations, or legal risks. U.S. bank regulators issued several proposals in 1993, including two proposals developed in the United States and a proposal developed jointly by U.S. and foreign regulators. These proposals sought industry comments on ways to expand current capital standards to better address market risk. However, the exact form of any market risk standards that will be adopted is unclear, because U.S. and international approaches vary and market participants and some regulators are critical of the international proposal. The amount of capital banks hold for derivatives will also be affected by regulators' proposals to recognize a broader form of netting.

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Capital Requirements
Protect Against Losses

Capital serves as a buffer to absorb unexpected losses that a bank's current earnings cannot cover. As a bank's capital approaches the minimum required levels, regulators are warned that a bank's financial health is threatened and that federal intervention may be needed. Minimum capital requirements thereby reduce the likelihood of bank failures, protect depositors and creditors, and maintain the public's confidence in the banking system.

For a bank conducting derivatives activities, it must have enough capital to cushion it from losses arising from the risks these products pose. Establishing a standard that addresses all derivatives risks would provide bank regulators consistent criteria for assessing whether banks are adequately protected against derivatives losses. A minimum standard would also provide regulators with a baseline for identifying and acting when a bank's capital condition deteriorates.

Existing Capital
Requirements Primarily
Address Derivatives' Credit
Risk

As of April 1994, the capital requirements applicable to U.S. banks, including the seven major OTC derivatives dealers, did not completely address all derivatives risks. U.S. banks were required to comply with two different types of capital requirements—a risk-based requirement and a leverage ratio requirement. The risk-based requirement addressed derivatives' credit risk. The leverage ratio requires banks to hold capital against other risks, but this requirement has only recently included derivatives and does not apply to all of banks' derivatives contracts.

In 1988, regulators in the United States and other countries agreed to the Basle Accord, an internationally developed risk-based capital standards framework for banks.⁵ The accord's standards require banks to hold capital to cushion against potential losses arising primarily from credit risk, including credit risk from derivatives activities. Consistent with the accord, U.S. banking regulators have required all U.S. banks, since 1992, to hold capital equal to at least 8 percent of the total value of their assets, including derivatives holdings, after adjusting this value by the relative risk of the counterparties to these transactions. At a minimum, a bank's capital must consist of at least 4 percent of core capital,⁶ which includes common

⁵Working under the auspices of BIS in Basle, Switzerland, representatives of bank regulatory bodies from 12 countries adopted a framework for establishing minimum capital standards for internationally active banks. Each country was responsible for enacting the framework into its national regulations.

⁶Core capital is also called tier 1 capital.

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stockholders' equity, certain types of preferred stock,⁷ and minority equity investments in subsidiaries. The remainder of a bank's total capital can also consist of supplementary capital,⁸ which includes loan and lease loss allowances, certain debt securities, and subordinated debt with a maturity of 5 years or more.

These risk-based capital standards were developed because regulators in the United States and in other countries wanted to more adequately address the risks posed by specific activities. By working with various countries to develop an international standard, regulators also attempted to encourage banks to strengthen their capital positions and minimize competitive inequality arising from requirements differing across countries. According to the original 1987 consultative paper issued by the Basle Committee on Banking Supervision, the target ratio of 8 percent capital to risk-adjusted assets was chosen because it represented a higher level of capital than banks in various countries were generally holding at the time.⁹ Recognizing this, the 1988 Basle Accord allowed 4 years for banks to come into full compliance with the required amount.

To adjust asset values to account for the relative riskiness of a counterparty, banks multiply the asset values by certain credit conversion factors, which are percentages ranging from 0 to 100 percent. For example, if a bank holds a claim on a Federal Reserve bank or the central bank of another OECD country, this asset is multiplied by a factor of 0 percent, which results in no capital being held against the risk of credit loss from this transaction. For an obligation owed by another commercial bank, a bank must multiply the amount of this obligation by 20 percent, which requires the bank to hold capital equal to 1.6 percent of this amount. For an obligation owed by a private corporation, such as a loan, a bank must multiply the amount of the loan by 100 percent, which requires the bank to hold capital equal to a full 8 percent of this amount.

Under the risk-based capital requirements adopted by U.S. bank regulators, derivatives are subject to a capital requirement of less than 8 percent because counterparties are generally of high credit quality. To determine the amount of capital to be held for a derivatives contract's

⁷Banks are allowed to include in their core capital only such perpetual preferred stock that does not have a maturity date, cannot be redeemed at the option of the holder, has no other provisions that will require future redemption of the securities, and allows the issuer to defer or eliminate the dividend that is paid to the holders of such securities.

⁸Supplementary capital is also called tier 2 capital.

⁹Consultative Paper: Proposals for International Convergence of Capital Measurement and Capital Standards, Committee on Banking Regulations and Supervisory Practices, BIS (Basle, Switzerland: Dec. 1987).

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credit risk, banks first must determine the market value of the contract, which is called the current exposure. To this amount, they then must add an additional amount to account for the potential increased exposure that may arise as market rates or prices change, which is called the potential future exposure. This potential future exposure amount is calculated by multiplying the notional amount of the contract by a certain percentage ranging from 0 to 5 percent, depending on whether the derivative is an interest rate or foreign exchange rate contract and its original maturity. Once a bank has determined the total of a derivatives contract's current exposure and potential exposure, this total is then multiplied by a maximum credit conversion factor of 50 percent, even if the counterparty is a private corporation. This calculation results in the bank holding capital equal to at least 4 percent of the contract's market value but usually less than the 8 percent required on other extensions of credit, such as loans. According to U.S. bank regulators, the maximum credit conversion factor for derivatives contracts was set at 50 percent because the majority of counterparties to these contracts were of high credit quality. As stated in chapter 3, we found that more than 97 percent of the notional amount of swaps outstanding at year-end 1991 for a sample of 200 firms was held by firms with at least investment grade credit ratings.

U.S. banks also must comply with a capital leverage ratio, but this requirement has only applied to derivatives since March 1994 and does not address all of banks' derivatives contracts. This ratio requires banks to hold certain amounts of capital equal to or greater than certain specified percentages of their total assets. Such requirements for other bank activities have been in place since the early 1980s. Since 1990, banks have been specifically required to hold capital between 3 and 5 percent of their total assets, depending on a regulatory assessment of the strength of their management and controls.

Bank regulators require banks to comply with both the risk-based capital standard and leverage ratio because the former primarily addresses only credit risk. The leverage ratio requires banks to hold capital as a cushion against losses arising from other risks, such as operational weaknesses in internal policies, systems, and controls. Although previously banks' derivatives activities were not subject to this leverage ratio, beginning March 31, 1994, banks were required to include the value of those contracts with a positive market value as part of their total assets subject

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to the leverage ratio capital requirement.¹⁰ Whether this requirement provides sufficient capital for operations or legal risks is difficult to determine because these risks cannot be quantified. In addition, the requirement does not address contracts with negative market value.

Although U.S. capital standards for the derivatives activities of banks do not address all risks, at least four of the seven major bank derivatives dealers we identified evaluated the adequacy of the capital held by their institutions to protect against market and other risks arising from their derivatives activities. For example, one official told us that his bank assigned different amounts of capital to protect against potential market risk losses on its derivatives portfolio, depending on the volatility of market prices or rates that underlie the derivatives it held. He said that the bank also assigned varying amounts of capital based on the credit risk associated with each derivatives transaction by using internally developed rankings of counterparty credit quality that included at least nine categories.

U.S. Regulators Issued
Proposals to Address
Market Risk

Regulators issued several proposals to develop standards for market risk. U.S. bank regulators issued the first of these proposals in 1993 as required by FDICIA. That proposal addresses whether banks should hold additional capital against interest rate risk.¹¹ It seeks to quantify the level of risk banks are exposed to by measuring the effect of interest rate changes on the bank's economic value, using either a regulator-developed mathematical model or a bank internal model. After identifying the level of interest rate risk an institution faces, regulators will assess whether the bank is holding sufficient capital. In addition to measuring interest rate risk, regulators expect banks with significant foreign exchange activities to be capable of measuring and assessing the risk of these activities. However, bank regulators were unsure about whether the additional capital banks may be required to hold against interest rate or foreign exchange risks will be established by a formula or left to regulatory staff to determine on a case-by-case basis. According to a bank regulatory official, interagency meetings between the banking regulators are

¹⁰This change resulted from regulators adopting for reporting purposes the provisions of FASB Interpretation No. 39, *Offsetting of Amounts Related to Certain Contracts*, FASB (Norwalk, CT, Mar. 1992). This interpretation requires firms to report the total value of any derivatives contracts with a positive value as an asset and the total value of any derivatives contracts with a negative market value as a liability on their balance sheets.

¹¹Interest rate risk is the risk of potential loss arising from changes in interest rates; it is one of the primary types of market risk that banks face.

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continuing and another proposal for public comment will be issued by summer 1994.

A second proposal U.S. banking regulators issued in 1993 in response to FDICIA would revise current capital standards to specifically include concentrations of credit risk and the risk of nontraditional activities, including derivatives. This proposal does not advocate a numerical measurement of these risks but, instead, would add them to the list of specific factors that regulators consider in assessing a bank's overall capital adequacy. Any additional capital required as a result of these risks would be determined on a case-by-case basis. According to a bank regulatory official, a revised proposal has been drafted and public comments will be sought in 1994.

U.S. Regulators Also
Issued an International
Group's Proposals to
Address Market Risk

In addition to their own proposals, U.S. regulators participated in developing a Basle Committee on Banking Supervision proposal to address the market risk of bank activities.¹² In general, this group's market risk proposal would have banks hold specific amounts of capital against potential losses on their trading activities, including derivatives. Banks would be required to hold capital against the value of any outstanding derivatives positions after offsetting the values of all opposite buy or sell positions in the same product.

U.S. market participants have criticized the Basle Committee's proposal. One of their primary objections is that it would result in banks holding either too much or too little capital. For example, some commentators noted that the amount of capital that the proposal could require would not be accurate because it would use notional/contract amounts to measure potential price changes instead of derivatives market values. According to commentators, bank risk-management systems can more accurately measure price changes. Commentators also were concerned that the proposal would discourage firms from properly hedging their risks because it measures risk by type of product and not by type of market risk, such as interest rate, foreign exchange, or equity risk. In addition, some commentators said that the proposal was too inflexible to apply to new products whose risks might overlap product categories.

¹²The Basle Committee on Banking Supervision includes bank regulatory staff from the 12 countries that developed the Basle Accord on credit risk. The committee's proposals and their status are discussed in more detail in chapter 7.

**Lack of Standards for
Operations and Legal Risks
Hampers Regulators'
Ability to Evaluate Banks'
Capital Adequacy**

As indicated previously, current bank capital requirements only partially address the operations and legal risk of derivatives. To assess whether the current requirements provide for adequate capital, regulators must first understand the level of risk to which banks are exposed. Regulators can best obtain such information through an on-site examination that considers the quality of management controls over legal and operations risks, and the characteristics of the banks' derivatives activity. As of April 1994, bank regulators had the legal authority to require banks to hold additional capital or curtail involvement in activities that pose risk based on assessments of the quality of a bank's management and controls or the adequacy of its capital level. Further, FDICIA requires bank regulators to take certain actions of this type for banks whose capital declines to specified levels.

As described in chapter 3, derivatives activity can result in losses not only because of exposure to credit and market risks but also because of exposure to operations and legal risks.¹³ In contrast to credit and market risks, which regulators, major OTC dealers, and others attempt to quantify, legal and operations risks are not amenable to numerical measures. Notional amounts may not represent the degree of operations risk. For example, two banks may each have \$100 billion in derivatives notional/contract amounts. However, if one bank's contracts are composed of 10 simple interest rate swaps and the other's of 10 complex options, the former has less operations risk than the latter. Alternatively, if one bank has numerous simple interest rate swaps but inadequate risk-management controls, while the other has complex options but excellent controls, the latter may have less operations risk than the former. The situation is similar for legal risk: a large volume of swaps between two U.S. banks may have much less legal risk than a small volume of transactions between a U.S. bank and a quasigovernmental entity in a foreign country.

The positive market value of a bank's derivatives portfolio also does not capture the degree of operations risk. Two firms might both have derivatives portfolios with positive market values of \$2 billion. Relatively few large swaps might compose the portfolio of the first firm; numerous small, complex derivatives might compose the portfolio of the second. Even if both firms had the same quality of operations controls and management, the holder of the complex derivatives would be exposed to more operations risk. For example, the difficulty of accurately monitoring

¹³As discussed in chapter 3, legal risk is the exposure to financial loss arising from adverse legal or regulatory body action. Operations risk is the exposure to financial loss from inadequate systems, management failure, faulty controls, fraud, or human error.

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the value of more complex derivatives increases the likelihood of a related operations error producing a loss.

Given these difficulties, regulators will have to weigh the relative advantages and disadvantages of various approaches to developing a minimum capital standard for derivatives' operations and legal risks. Also, the amount of any additional capital to be required to address these risks should not be so large as to cause derivatives activity to move from soundly managed dealers to less-soundly managed or less-regulated dealers. To avoid such problems, any additional capital requirement regulators establish could be designed to vary depending on the regulator's assessment of the quality of a bank's systems and controls for operations and legal risk. Banks with weaker controls, then, could be required to hold more capital than those with stronger systems.

Broader Recognition of
Netting Will Affect Capital
for Derivatives

Under another Basle Committee proposal and a similar U.S. proposal, U.S. regulators are considering allowing banks to make greater use of netting contracts in computing the amount of capital held for their derivatives activities. Currently, a U.S. bank is only allowed to net obligations on derivatives contracts with another counterparty that are denominated in the same currency and due on the same date.¹⁴ Under the provisions of a proposal developed and issued by U.S. and foreign regulators as part of the Basle Committee, a bank would be allowed to net together all obligations on its derivatives contracts with each counterparty with whom it has entered into legally enforceable netting agreements. Banks will have to satisfy the appropriate regulators in each country that their netting agreements are enforceable under the laws of each relevant jurisdiction. In the event a counterparty defaults, a bank could incur larger losses if its netting agreement is not legally enforceable. This could occur if a court required the bank to pay the entire amount it owes without offsetting this amount by the defaulting counterparty's obligations. In the Basle Committee proposal, the regulators acknowledge that allowing greater use of netting will likely reduce the amount of capital banks hold for derivatives activities.

Recognizing that legally enforceable netting agreements can reduce banks' credit risk exposures, the Federal Reserve has also approved a proposal that would allow U.S. banks to begin netting their derivatives obligations in accordance with this international proposal. Staff from the Federal

¹⁴This is known as netting by novation. It is discussed in more detail in chapter 7.

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Reserve advised us that they intend to issue a U.S.-specific version of this proposal in conjunction with the other U.S. bank regulators during 1994.

Bank Regulatory
Examinations Address
Derivatives, but
Internal Controls
Have Not Been
Adequately Assessed

On-site examinations are federal bank regulators' primary means for assessing the safety and soundness of banks. According to a Federal Reserve official, on-site bank examinations, including evaluation of internal risk-management models, systems, and controls, are the most important elements of supervision and regulation of derivatives activities. To determine the effectiveness of a bank's controls, regulators need to assess the adequacy of control systems, specifically identify critical control procedures, test these procedures, and evaluate the results of these tests.

Federal bank regulators conduct examinations that cover the risk-management systems and practices of the major OTC derivatives dealer banks. The examinations are based on guidance that is generally consistent with the recommendations of the Group of Thirty but does not have the weight of regulation. As a result, obtaining corrective action should a bank fail to comply with the guidance can be a more difficult and time-consuming process. In the absence of regulations, bank regulators must cite unsafe and unsound conditions to force compliance with desired standards.

To determine whether derivatives activities were being addressed by regulators, we reviewed 26 examination reports done by OCC and Federal Reserve staff from 1990 through 1992 for the 7 major bank derivatives dealers. This period preceded the 1993 implementation of bank guidance for assessing the risks of derivatives activities. We determined that examiners evaluated the derivatives activities of these banks at least once annually during this 3-year period.¹⁵ As indicated in chapter 3, the examination reports we reviewed identified various deficiencies and corrective actions related to derivatives.

Although the bank regulators have assessed the major OTC derivatives dealers' risk-management systems, we are concerned that examiners may not be sufficiently testing internal controls. In earlier work, we reported that regulatory staff conducting examinations did not routinely identify the key internal controls applicable to banks' operations, including their derivatives activities, nor did regulatory staff extensively test these

¹⁵The 1992 examination reports for two of these banks were not completed in January 1993 when we did our review of examination reports.

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controls.¹⁶ As part of this earlier work, we recommended in February 1993 that federal bank regulators annually perform comprehensive internal control reviews.

Our review of the examination reports and supporting workpapers for two major bank derivatives dealers provided some evidence that problems may persist in this area. That is, while OCC and the Federal Reserve had performed work that would identify weaknesses in risk-management procedures and some internal controls, the agencies had not both conducted and documented adequate reviews of these banks' internal controls. Specifically, the responsible OCC bank examiner said that the agency did not have the resources to extensively test internal controls at the bank in question. In contrast, Federal Reserve officials said that the agency had identified and tested the key internal controls applicable to the selected bank's operations, but that examiners had not fully documented their work.

A change as a result of recent legislation should improve regulators' ability to assess bank internal controls. On June 2, 1993, bank regulators issued regulations pursuant to FDICIA that require management at large banks to evaluate and annually report to their respective regulatory bodies on the effectiveness of internal controls at their institutions. Bank external auditors are also required to attest to the accuracy of management's internal control evaluations. These internal control evaluations and the subsequent external auditor certifications should assist bank regulators in focusing their examinations on the areas of bank operations posing the greatest risk. In our previous reports on federal bank examinations, we recommended that regulators use these evaluations as part of identifying and testing banks' key internal controls.

Bank regulators have recently taken steps to improve their examinations of banks' derivatives activities. In February 1994, the Federal Reserve issued its new examination manual, which consolidates and expands examination procedures relating to trading and derivatives activities. According to Federal Reserve staff, this manual also includes more detailed guidance for examiners on internal controls.

¹⁶See our reports Thrift Examination Quality: OTS Examinations Do Not Fully Assess Thrift Safety and Soundness (GAO/AFMD-93-11, Feb. 16, 1993); Bank Examination Quality: FDIC Examinations Do Not Fully Assess Bank Safety and Soundness (GAO/AFMD-93-12, Feb. 16, 1993); Bank Examination Quality: FRB Examinations and Inspections Do Not Fully Assess Bank Safety and Soundness (GAO/AFMD-93-13, Feb. 16, 1993); Bank Examination Quality: OCC Examinations Do Not Fully Assess Bank Safety and Soundness (GAO/AFMD-93-14, Feb. 16, 1993); and Bank and Thrift Regulation: Improvements Needed in Examination Quality and Regulatory Structure (GAO/AFMD-93-16, Feb. 16, 1993).

Bank Regulators Have Taken Other Actions to Address Derivatives Risks

Bank regulators have taken other actions to address risks associated with derivatives use. As indicated in chapter 3, both the Federal Reserve and OCC issued guidance in late 1993 on derivatives' risk management for use by their examiners and the institutions they supervise. Both agencies also participate on several interagency working groups that are addressing derivatives issues. Staff from the Federal Reserve, FDIC, OCC, and the Office of Thrift Supervision have had periodic meetings since October 1993 to share information and develop consistent regulatory accounting principles for derivatives. In addition, the bank and thrift regulators also periodically meet with representatives of SEC and CFTC to discuss derivatives issues as part of a working group formed in January 1994 at the direction of the Secretary of the Treasury. The Federal Reserve and OCC have also conducted specialized training on derivatives for their staffs and designated certain staff to serve as advisers on derivatives issues to the heads of the agencies or to examination staff.

SEC, CFTC, and Insurance Regulators' Ability to Oversee OTC Derivatives Dealers Is Limited

Although the bank derivatives dealers are subject to regulation, basic regulatory controls do not exist for the major U.S. otc derivatives dealers that were affiliates of securities firms and insurance companies. Securities firm affiliates reported some information on their derivatives activity. However, this information included limited data on counterparty concentrations and did not specifically identify the type and amount of derivatives earnings. Further, the otc dealing activities of securities firms that did not involve regulated securities were not subject to capital standards or regulatory examinations. The otc dealing activities of insurance companies were neither subject to capital standards nor examined. While these dealers' derivatives activities were small compared to those of the top seven bank dealers, as noted in chapter 1, their activities increased at a higher rate from 1990 to 1992 than did the banks'. Further, these securities firms and insurance companies are large financial firms. As in the case of a major bank failure, a crisis involving derivatives that affects one of these firms would likely affect the financial system and require federal intervention to resolve. Although the federal government would not necessarily intervene just to keep a major otc derivatives dealer from failing, the federal government is likely to intervene to keep the financial system functioning in cases of severe financial stress.

Securities and Futures Laws Limit SEC and CFTC Authority Over Derivatives Dealers

The regulatory oversight responsibilities of SEC and CFTC differ substantially from those of bank regulators. Bank regulators are authorized to regulate affiliates of banks or bank holding companies. In contrast, SEC and CFTC are authorized to regulate activities involving securities and futures and only those firms that trade these products. For the most part, neither agency regulates otc derivative products or the dealers of those products unless their trading is conducted in a regulated institution. Whereas bank regulators seek to ensure the safety and soundness of banks and protect the Bank Insurance Fund, SEC's and CFTC's primary purposes are to protect investors or customers in the public securities and futures markets and to maintain fair and orderly markets.

SEC and CFTC Do Not Regulate All OTC Derivatives Activities

As part of its oversight efforts, SEC regulates the activities of broker-dealers—firms that buy and sell securities for their own accounts and as agents for their customers. These firms must register with SEC and comply with its requirements for regulatory reporting, minimum capital, and examinations. They must also comply with the requirements of the various exchanges and industry associations, such as the New York Stock Exchange and the National Association of Securities Dealers, which are

granted self-regulatory responsibilities under the Securities Exchange Act of 1934. SEC monitors broker-dealer capital levels through periodic reporting requirements and regular examinations. To fulfill its regulatory responsibilities and foster confidence in the industry and financial system, SEC focuses on the regulated broker-dealers and on protecting customers from losing funds or securities held by these firms. U.S. securities laws do not apply to a securities firm's entire organizational structure, which may also include a holding company and other affiliates.

The Securities Exchange Act of 1934 governs securities trading in the United States. The definition of a security subject to SEC regulation includes traditional capital-raising instruments, such as stocks, bonds, and notes. Through a 1982 amendment of the act, Congress clarified that securities subject to SEC regulation include options on individual securities and on groups of or indexes on securities. Because SEC's jurisdiction pertains only to securities, it does not regulate affiliates of broker-dealers whose activities involve products that are not securities.

As part of its oversight efforts, CFTC reviews exchange rules, ensures their consistent enforcement, and monitors the positions of large traders. CFTC also regulates the activities of various market participants, including futures commission merchants (FCM)—firms that buy and sell futures contracts as agents for customers. FCMs must comply with CFTC's requirements for regulatory reporting, minimum capital, and examinations. In addition, they must comply with the rules imposed by the various exchanges such as the Chicago Mercantile Exchange and the Chicago Board of Trade, as well as the National Futures Association, all of which act as self-regulatory organizations under CEA.

CEA gives CFTC exclusive jurisdiction over all futures contracts. The significance of defining an instrument as a futures contract has been CEA's requirement that all futures contracts trade on a CFTC-designated exchange. The Futures Trading Practices Act of 1992 authorizes CFTC to grant exemptions to this requirement and to impose conditions on such exemptions. Since receiving such authority, CFTC has exempted certain OTC contracts, including nonequity swaps, energy-based commodity contracts, and contracts that combine features of futures and securities, called hybrid contracts. CFTC did not exempt nonequity swaps from the antifraud and antimanipulation provisions of CEA. Similar to SEC, CFTC focuses on ensuring the financial stability of regulated FCMs to protect their customers and does not directly examine the activities of the holding companies or any other affiliates of these firms.

Other than reporting requirements, OTC derivatives dealers that are affiliates of securities and futures firms are subject to minimal regulation. Neither SEC nor CFTC regulate the activities of OTC derivatives dealers that are not either broker-dealers or FCMS. However, they have the authority to collect information about the activities of firms affiliated with broker-dealers or FCMS, respectively, including derivatives dealers. The five major securities firm derivatives dealers that we identified were conducting their OTC derivatives dealing in one or more affiliates outside the entity regulated by SEC or CFTC.¹ At the time of our review, FCMS that were not already affiliated with a securities firm did not have any affiliates that were major OTC derivatives dealers. However, some firms had recently started conducting such activities and eventually could become major dealers.

Securities and Futures Firm Affiliates Are Not Required to Report Sufficient Information on Derivatives Risks and Earnings

Recent legislation authorized SEC to collect information from holding companies and other unregulated affiliates of the securities firms it regulates, including OTC derivatives dealers. To allow SEC to assess the risks posed by a broker-dealer's affiliates, the Market Reform Act of 1990 authorized SEC to collect information from registered broker-dealers about the activities and the financial condition of their holding companies and material associated persons.² SEC began in October 1992 to receive the information required under risk-assessment rules developed pursuant to the act.³ This information includes the total derivatives notional/contract amounts, aggregate credit risk of these firms' derivatives dealer affiliates, and certain concentrated exposures to individual counterparties. Specifically, these firms report quarterly on the notional/contract amounts of futures, forwards, options, and swaps positions, segregated by interest rate, foreign exchange, and commodities contracts. SEC also requested and received narrative descriptions of these firms' derivatives risk-management procedures and systems.

SEC also instituted a reporting requirement for credit exposures to individual counterparties that exceed certain limits. As required by the risk-assessment rules, the affiliates of securities firms are to report any individual counterparty credit exposures that exceed a certain threshold.

¹Each of these five securities firms also had FCM affiliates conducting exchange-traded derivatives activities subject to CFTC regulation.

²A material associated person has a relationship to a broker-dealer such that its business activities are reasonably likely to have a material impact on the financial and operational condition of the broker-dealer.

³Rules 17h-1T and 17h-2T, 17 C.F.R., parts 240 and 249.

This threshold is \$100 million or 10 percent of the broker-dealer's tentative net capital or 10 percent of the affiliate's net worth, whichever is greater. However, SEC officials said that only one firm had reported exposures that exceeded these thresholds as of March 31, 1993. SEC collected no other information on counterparty credit exposure on a routine basis. SEC's threshold is too high to obtain sufficient information for detecting potential credit-risk problems among the OTC derivatives dealer affiliates of securities firms. Such information would better enable SEC to anticipate and quickly respond to a crisis involving derivatives at these firms.

Like bank regulators, SEC is not receiving income information that shows gains and losses on derivatives separate from securities firms' other trading activities. As a result, the earnings from proprietary trading are not separated from income earned on customer transactions. Such information could help SEC to assess the risks taken by securities firms using derivatives to speculate.

The Futures Trading Practices Act of 1992 provided CFTC authority similar to SEC's—that is, to collect information for use in assessing the risks posed by the activities of an FCM's holding company or any affiliates. Proposed reporting requirements were issued for public comment in February 1994, with 120 days allowed for comments.

SEC Has Limited Capital Standards and Examination Authority Over Derivatives Dealers

SEC has capital standards that address derivatives, but these standards apply only to regulated broker-dealers, not to OTC derivatives dealers that are affiliates of securities firms. Also, SEC has no authority to examine the activities of these affiliates.

SEC uses its net capital rule (rule 15c3-1) to oversee the financial soundness of broker-dealers. This rule requires broker-dealers to maintain sufficient capital to satisfy the claims of their customers, other broker-dealers, and creditors. Under the rule, a broker-dealer must subtract from the value of its assets various amounts, called haircuts, depending on the assets' liquidity or riskiness. For example, SEC requires firms to reduce the value of any stock holdings by 15 percent for purposes of computing their capital.

According to SEC officials, the treatment of OTC derivatives under the net capital rule has been one of the factors that has influenced firms to conduct these activities in affiliates not subject to the rule. For swaps, securities firms are to add to their net worth the value of any contracts

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with unrealized positive market value and subtract from their net worth the value of any contracts with a negative market value. However, they also are to deduct from their net worth the value of any swap payments due them as unsecured receivables. In addition, they are to reduce any swap with a positive market value by up to 6 percent of the notional amount of the contract, depending on the term of the contract and whether the swap has been offset or hedged. Various percentages of the market value of other derivatives, including forwards, futures, and options, are also subtracted to adjust a securities firm's net worth due to holdings of these products. The result is that these requirements can tie up large portions of a firm's capital.

SEC has questioned whether derivatives treatment under the net capital rule is appropriate to address securities firms' risks. In May 1993, SEC issued a concept release seeking comments on the possibility of altering its capital requirements for OTC derivatives. The release includes several proposals, including revising the net capital rule to address the credit and market risks of derivatives activities but with lower capital charges than currently exist. SEC is also seeking comment on whether separate capital requirements should be drafted for derivatives dealer affiliates.

Officials of the five securities firms that had major OTC derivatives dealer affiliates told us that although their businesses were not subject to SEC capital or examination requirements, they voluntarily set aside capital on the basis of their calculations of the risks of their activities. They noted that rating agencies and counterparties insist that they do so. For example, to receive the highest possible credit ratings for certain of their derivatives dealer affiliates, several securities firms placed in these affiliates amounts of capital that were large relative to the level of their proposed activities.

Other officials expressed concerns over the rising volume of business conducted by unregulated firms, such as affiliates of securities firms. According to information in their 1992 annual reports, the five major securities firm OTC derivatives dealers had total notional/contract amounts of about \$3 trillion outstanding, which represented an increase of 77 percent since 1990. A Federal Reserve official, who oversees examinations of large bank derivatives dealers, told us that the risk of a financial crisis is heightened when financial problems at an unregulated firm can cause other derivatives dealers to become reluctant to continue trading.

State Insurance Regulatory Oversight of Derivatives Dealer Affiliates Is Limited

State insurance departments, not federal regulators, are responsible for monitoring insurance companies both domiciled⁴ and licensed to operate in the state. State insurance regulators do not directly oversee the financial condition of affiliates of insurance companies that are OTC derivatives dealers. We identified three insurance companies—domiciled in Delaware, New Jersey, and New York—that had major OTC derivatives dealer affiliates.⁵ Derivatives dealer affiliates of insurance companies are subject to minimal reporting requirements and no capital requirements and are not examined.

Derivatives Dealer Affiliates of Insurance Companies Are Subject to Minimal Reporting Requirements

Insurance regulators collect limited information on the derivatives dealer affiliates of insurance companies. Insurance regulatory officials in the three states we visited said that they receive audited consolidated financial statements for the parent company or the holding company of the insurance company. These consolidated statements contain all of the parent company's or holding company's derivatives notional/contract amounts and aggregate credit exposure, including information on the derivatives dealer affiliate. The affiliate is not required to provide other financial information to insurance regulators. Therefore, as is the case for banks and securities firms, no information is available on these derivatives dealers' individual counterparty credit exposures or on the sources and types of income they earn from derivatives.

As part of a study of derivatives issues, the National Association of Insurance Commissioners⁶ is considering the need for increased disclosure and reporting requirements on derivatives use by insurance companies. However, as of April 1994, its efforts have focused on the regulated insurance company and not on the derivatives dealer affiliates.

⁴Domiciled means the insurance company is legally headquartered in a state.

⁵The derivatives dealer of one of these insurance companies is a subsidiary of the parent, not a separate affiliate. Because the subsidiary is not a completely separate legal entity, it may be subject to more state regulation than affiliates. For ease of reference, we include the derivatives dealer subsidiary with affiliates in the rest of our discussion.

⁶The National Association of Insurance Commissioners is an advisory group that comprises insurance regulators from 50 states and the District of Columbia. It identifies insurance issues and proposes model laws for state enactment to ensure consistent regulation.

State Insurance Regulators Do Not Require Capital Standards or Examinations of Derivatives Dealers

The state insurance regulators we interviewed said that they did not impose capital requirements on derivatives dealer affiliates. Both officials of insurance company affiliates and state insurance regulators told us that derivatives dealer affiliates voluntarily hold capital against derivatives exposures as part of effective risk-management practices.

The state insurance regulators we contacted told us that they did not examine the activities of derivatives dealer affiliates. Officials of one state insurance regulator said that they had the authority to examine the derivatives dealer subsidiary of an insurance company. However, they said that they had not examined such a subsidiary, and they would not examine one unless they found that its activities had adversely affected the insurance company. Overall, insurance officials in the three states we contacted said their oversight responsibility was designed to monitor the health and solvency of only the regulated insurance companies—not to oversee affiliates of insurance companies dealing in derivatives.

Accounting Principles for Derivatives Have Not Kept Pace With Business Practices

The rules governing the accounting treatment for derivatives in the United States do not adequately cover some of the most basic types of derivative products. Of the four basic types of derivatives, only two—forwards and futures—are directly addressed by existing authoritative accounting rules. Therefore, accounting for a wide range of derivatives activities has been shaped in the United States by industry practices and analogies drawn to apply limited existing rules.

Accounting for end-user hedging activities is the most problematic derivatives accounting issue. Accounting rules for these activities are incomplete and contradictory and could be easily misapplied to result in inappropriate reporting of gains and losses from these activities. As a result, financial reports of end-users may be inconsistently presented; unrepresentative of the substance and risks of derivatives activities; and misleading to investors, creditors, regulators, and others. As many dealers are also end-users, these issues are applicable to them as well.

While FASB has recognized the need for better accounting rules for derivatives, especially rules for applying deferral hedge accounting by end-users, FASB's progress in developing such rules has been slowed by the complexity and controversy associated with derivative products and related financial instruments.¹ Unfortunately, the issuance of a complete set of rules that meets accounting and disclosure needs is unlikely in the immediate future.

Rules for Accounting for Derivatives Are Needed to Promote Consistent, Reliable Financial Reporting

Rules for accounting for derivatives activities are needed for the same reason rules are needed for accounting for other financial activities. Investors, creditors, regulators, and other users of financial reports generally depend upon accounting rules to help ensure the consistency and reliability of information in financial reports. The effective functioning of our economy depends upon financial information that is widely used being reliable and clearly understood. Such widespread use, understanding, and confidence in reliability requires that financial statements be prepared in conformance with established accounting rules.

¹FASB has defined a financial instrument as cash, evidence of an ownership interest in an entity, or a contract that both (1) imposes on one entity a contractual obligation to deliver cash or another financial instrument to a second entity or to exchange financial instruments on potentially unfavorable terms with a second entity and (2) conveys to that second entity a contractual right to receive cash or another financial instrument from the first entity or to exchange other financial instruments on potentially favorable terms with the first entity. A financial instrument has off-balance-sheet risk of accounting loss if the risk of accounting loss to the entity may exceed the amount reported as an asset, if any, or if the ultimate obligation may exceed the amount that is reported as a liability in the balance sheet.

In the United States, such accounting rules are known as Generally Accepted Accounting Principles (GAAP). GAAP includes rules for accounting for transactions as well as related disclosure requirements. Accounting rules define how the transactions of an enterprise should be recognized, measured, and reported in the enterprise's financial statements. Footnotes to those financial statements provide additional data that are relevant to the interpretation of the statements. The data include qualitative information on specific financial statement items as well as supplementary quantitative information that expands on the information in the financial statements. The footnote disclosures can also explain terms of financial arrangements or basic contractual agreements. Investors, creditors, and others use the enterprise's financial statements to (1) evaluate management's performance, (2) measure borrowing power, (3) guide investment decisions, and (4) support arguments on public policy issues. Regulatory information is derived, in part, from these statements or from the accounting systems upon which they are based.

Accounting Rules Address Only Some Types of Derivatives

Accounting rules established by FASB—referred to as Statements of Financial Accounting Standards (SFAS)—directly address only two of the four basic types of derivatives we discuss in this report—forwards and futures, although not all types of forwards are addressed. No specific accounting rules have been established for swaps or options. The lack of complete accounting rules for derivatives activities is a matter of concern, especially with regard to accounting by end-users for hedging activities. In general, in the absence of accounting rules, preparers of financial reports individually and judgmentally base accounting on common industry practices. These individual judgments may result in inappropriate reporting by some entities. In addition, inconsistent reporting by different entities of similar transactions is likely. As a result, reported financial results may be misleading and lack the transparency necessary for effective business and economic decisionmaking.

Derivatives Accounting Has Been Shaped by Industry Practices and Analogies Drawn in Applying Limited Accounting Rules

The accounting practices for many derivative products not addressed by accounting rules—including complex hybrids that this report does not discuss in detail—have evolved on the basis of common industry practices and analogies that preparers draw in applying limited existing accounting rules. As products increase in complexity, the likelihood of inconsistent and inappropriate accounting for derivatives also increases.

Common industry practices in accounting for derivatives have been determined largely by the objectives of those using derivatives. If the objective is to profit from trading activities, changes in the market value of the derivative product are reflected as gains or losses in the income statement. Alternatively, if the objective is to hedge financial risks, changes in the value of the derivatives are accounted for using the same basis of accounting as the underlying asset or liability being hedged (the hedged item).

If the underlying asset or liability is carried on the balance sheet at current market value, the derivative product used as a hedge is also carried at current market value, and any applicable gains or losses are reflected currently in the income statement. This practice is similar to the accounting for derivatives used for trading. But if the underlying asset or liability is carried on the balance sheet at historical cost,² or the hedged item is reported as an off-balance-sheet item,³ changes in the market value of the derivative product are not recorded in income until the income statement effects of the hedged item are realized in a later transaction. This type of accounting, which this report refers to as deferral hedge accounting, has the effect of delaying recognition of gains or losses in the market value of the derivative products. Criteria that are currently in effect limit the circumstances under which deferral hedge accounting is permissible.

The approach of determining the accounting for derivatives in accordance with the way derivatives are used seems relatively straightforward, but many factors complicate its application. The first of these complicating factors is the lack of common agreement on the definition of "hedging of financial risks." In addition to this basic definitional issue, the complexity and diversity of derivative products and transactions further complicate the determination of the timing of recognition and the measurement of derivatives activities in financial reports. Finally, the existing criteria for derivatives products that are eligible for deferral hedge accounting differ for the various product types. This disparity has caused significant controversy.

²Historical cost is the amount of cash, or its equivalent, paid to acquire an asset or the amount received when a liability was incurred.

³Under criteria that are currently in effect, derivatives are excluded from the balance sheet when (1) an exchange of an underlying asset or liability has not yet occurred and no assurance exists that it will occur or (2) notional amounts are used solely to determine cash flows to be exchanged in the future. Futures, forwards, options, and swaps, the focus of this report, are all considered to be off-balance-sheet products.

Current Practices in
Accounting for Forwards

The only GAAP rule for forward contracts is SFAS No. 52, Foreign Currency Translation, which includes accounting requirements for forward exchange contracts. Under SFAS No. 52, forward exchange contracts entered into for speculative purposes are recorded at market value on the balance sheet, with subsequent changes in market value recorded as gains or losses in the income statement. Changes in the market value of forward exchange contracts that qualify as hedges of investments in foreign subsidiaries are included as part of the translation adjustment in stockholders' equity on the balance sheet. If the forward contract is a hedge of a foreign currency commitment not yet recorded in the financial statements (for example, a firm order to purchase foreign goods), the change in value of the contract is deferred until the transaction being hedged is recorded (for example, when the foreign goods are received and recorded). It is included at that time as part of the measurement of the transaction (for example, as part of the purchase price).

As of April 1994, GAAP rules did not address accounting for forward contracts that did not involve foreign exchange rates. In practice, these contracts are generally accounted for by analogy to SFAS No. 80, a discussion of which follows.

Current Practices in
Accounting for Futures

Futures contracts are accounted for on the basis of requirements of SFAS No. 80, Accounting for Futures Contracts. SFAS No. 80 requires that a change in market value of an open futures contract be immediately recognized in earnings unless the contract qualifies as a hedge of an asset or liability carried at cost. If the contract does so qualify, the gain or loss may be deferred and reported as an adjustment to the carrying amount of the hedged item on the balance sheet. The total amount of the commodity or financial instrument that underlies the futures contract (the underlying) is not recorded on the balance sheet.

Current Practices in
Accounting for Options

The current practices in accounting for options have been shaped by analogies drawn by industry in applying accounting rules for forward exchange contracts and futures. In the absence of any GAAP rules for accounting for options, a task force of the American Institute of Certified Public Accountants published in 1986 Issues Paper 86-2, Accounting for Options. This paper, which has influenced accounting practices for options, included advisory conclusions that proposed criteria and hedge accounting techniques for options based largely on SFAS No. 52 and SFAS No. 80, which cover accounting for forward exchange contracts and

futures. However, the task force departed from those SFASs when the economics of options differed significantly from those of forward exchange contracts and futures.

In general, the paper concluded that as in accounting for futures contracts, changes in the market value of options should be immediately recognized in earnings unless hedge accounting is specifically justified under certain criteria. If the option qualifies as a hedge, then changes in the market value of the option are included in income in the same period as changes in the market value of the item being hedged. However, the paper raised concerns about whether hedge accounting is appropriate for all options. It generally concluded that the application of hedge accounting should be limited to certain portions of certain types of options contracts. Although this paper has affected the evolution of existing accounting practices, it does not have the status of GAAP.

Current Practices in Accounting for Swaps

As of April 1994, GAAP did not directly address accounting for swaps. In practice, foreign currency swaps are accounted for on the basis of analogies drawn in applying accounting rules for forward exchange contracts. Industry practice for interest rate and commodity swaps is to record the net difference in interest or other obligations of the swap counterparties directly to income or expense. Neither the notional amount nor the market value of these swaps entered into for hedging purposes is recorded on the balance sheet. The market value of interest rate and commodity swaps entered into for trading purposes is recorded on the balance sheet and changes in the value are reflected in income.

Hedge Accounting Is Complicated by Product Complexity and Lack of Clear, Noncontradictory Rules and Definitions

The most complicated accounting issue concerning derivative products is whether a transaction entered into for risk-management purposes qualifies for deferral hedge accounting. Deferral hedge accounting generally allows gains and losses on the derivative product to be deferred and recognized in the income statement at the same time as the income statement effect of the hedged item. If the hedge operates as planned, the income statement effects of the derivative product and the hedged item will substantially offset each other. However, determining whether a hedge is operating effectively and thus qualifies for hedge accounting is difficult in reality. In addition, there is currently disagreement over the appropriate objective for risk management activities that should qualify for deferral hedge accounting.

Lack of Accepted Definition for Hedging Financial Risks

The traditional definition of hedging has been that it is a strategy of entering into transactions or financial positions whose primary purpose and effect is to protect an entity from exposure to interest rate, foreign exchange, or commodity price risk. This traditional viewpoint assumes that enterprises enter into hedging transactions to reduce risk of loss.

Another viewpoint extends the definition of hedging to include "other risk adjusting activities," which are strategies whose purposes and effects are to adjust the level of risk, either up or down, but not necessarily to reduce it. Because deferral hedge accounting allows for delayed recognition of gains and losses from derivative activities, the potential ramification of this viewpoint is that the effects of increasing the level of an institution's risk of loss would not be reflected immediately in income. We believe deferral hedge accounting should be limited to activities intended to decrease an enterprise's exposure to risk of loss. The determination of the proper definition of hedging of financial risks is the first and foremost issue that must be resolved by FASB so that it can continue with the development of accounting standards in this area.

Hedge Criteria for Complex Transactions Are Difficult to Apply

The difficulty in determining whether a hedge is operating effectively and qualifies for hedge accounting stems generally from the complexity of many derivative products and the lack of accounting rules that apply to all products. Existing accounting rules that might be used to account for hedges conflict with one another, resulting in further inconsistency and confusion.

The traditional practice in hedge accounting is to treat a derivative product as a hedging instrument if it meets the following general criteria:

- The item (position) to be hedged and the hedging instrument are specifically identified by management and the relationship between them is designated as a hedge.
- The existing asset or liability to be hedged actually exposes the firm to market risk caused by changes in factors such as interest or exchange rates.
- The hedging instrument is expected to reduce such exposure and continues to do so throughout the life of the hedging instrument.

In general, these criteria are applied to determine whether correlation exists between the item being hedged and the derivative product being used as a hedge. Perfect negative correlation results in a complete offset

between the change in the value of the item being hedged and the hedge instrument.

In cases where the asset or liability being hedged is carried at historical cost, the deferral of hedge gains and losses results in a delay in the recognition of the change in the derivative's market value. As long as the derivative qualifies for hedge accounting, such recognition is not required until the reporting period in which the change in market value of the hedged item is ultimately recognized. For example, an entity using futures contracts to hedge interest rate changes on its adjustable-rate debt would defer changes in the market value of those contracts until the date of the interest rate adjustment on the debt. After the rate adjustment, the entity would amortize the hedge gain or loss as an adjustment of interest expense. If the hedge was effective, then changes in the value of the contracts would substantially offset the income statement effects of the rate change. However, if the change in value of the contracts did not correlate well with the change in interest rates on the debt, the ultimate income statement effects would not be substantially offsetting. Once this situation was identified, deferral accounting would not be allowed under the hedge criteria.

A misapplication of the deferral hedge criteria can result in misleading financial reports. For example, deferral of hedge losses that do not correlate with changes in the value of the underlying items being hedged results in a misstated balance sheet and skewed income statement effects

Hedge Accounting Lacks Clear, Noncontradictory Rules

Hedge accounting is complicated by the lack of clear rules and the existence of possibly applicable rules that are contradictory. For example, the actual application of the hedge criteria is difficult due to the lack of clear accounting rules on (1) the degree to which the hedge must correlate to qualify for hedge accounting, both initially and throughout the life of the hedge, and (2) the frequency of assessment. The lack of clarity in these areas allows for potential manipulation of the hedge criteria, particularly in situations where wide fluctuations in values occur during the hedge period.

Another major difficulty in current practice for hedge accounting is the inconsistency in existing rules on the treatment of anticipated transactions. An anticipated transaction is one that an entity expects to carry out in the normal course of business. SFAS No. 52, which contains accounting rules on foreign currency transactions, limits hedge accounting

to anticipated foreign currency transactions that are firmly committed. SFAS No. 80, which provides guidance on futures contracts, is inconsistent with SFAS No. 52. SFAS No. 80 extends hedge accounting to anticipated transactions that are not firmly committed, provided certain underlying criteria are met.

The complexities surrounding deferral hedge accounting for derivatives activities are deepened by the lack of clear accounting rules for hedging activities involving groups of assets and liabilities. These types of hedging activities, referred to as dynamic portfolio management, are often used rather than static hedging of individual items. Dynamic portfolio management is characterized by the continuous assessment and periodic adjustment of the risk in groups of assets, liabilities, and binding commitments of an enterprise.

Dynamic portfolio management enables an entity to more easily take maximum advantage of naturally offsetting positions in the portfolio and thus to adjust only for the portfolio's net remaining exposure. Dynamic portfolio management is commonly used, especially by financial institutions, because it is particularly efficient and cost-effective in many situations. However, the hedge criteria commonly applied under SFAS No. 52 and SFAS No. 80 to justify deferral hedge accounting for hedges of individual transactions—including specific designation, assessment of effectiveness, and tracking—are difficult to apply to these dynamic portfolio activities, and no alternative criteria have been developed by FASB.

Existing and Proposed Standards Require Disclosure of Derivatives Activities

FASB issued two SFASs on disclosure requirements, one in 1990 and one in 1991, to address general concerns about the extent and nature of an entity's financial instruments (including derivative products) with off-balance-sheet risks of accounting losses as well as current market values of financial instruments. A third proposed standard was recently released for comment and is expected to be issued by the end of 1994.

Under the two existing disclosure standards, preparers of financial statements must disclose information about the credit and market risks involved with financial instruments and the fair value of financial instruments. SFAS No. 105,⁴ Disclosure of Information About Financial Instruments With Off-Balance-Sheet Risk and Financial Instruments With

⁴Disclosure may be made either in the body of the financial statements or in the footnotes to the financial statements. Certain financial instruments are excluded from the scope of SFAS No. 105 because existing disclosure guidance addresses these items.

Concentrations of Credit Risk, requires disclosure of the following information by class of financial instrument with off-balance-sheet risk:

- face or contract amount (or notional principal amount if no face or contract amount exists);
- the nature and terms of the instrument, including, at minimum, a discussion of credit risk, market risk, cash requirements, and the related accounting policy;
- the amount of accounting loss the entity would incur if any party to the financial instrument failed completely to perform according to the terms of the contract and collateral or other security, if any, proved to be worthless;
- the entity's policy for requiring collateral or other security to support financial instruments subject to credit risk, information about the entity's access thereto, and the nature and a brief description of the collateral or other security supporting those financial instruments; and
- significant concentrations of credit risk arising from all financial instruments, whether from an individual counterparty or groups of counterparties, including information about the activity, region, or economic characteristic that identifies the concentration of credit risk.

SFAS No. 107, Disclosures about Fair Value of Financial Instruments, requires the following information to be disclosed about the fair value of all financial instruments,⁶ regardless of whether it is recorded in the balance sheet:

- fair value of the financial instruments for which it is practicable to estimate that value and
- method and significant assumptions used to estimate fair value.

When the estimation of the fair value of a financial instrument is impracticable, the statement requires disclosure of information that is pertinent to such estimation. This information includes the carrying amount, effective interest rate, maturity, and the reason the estimate of fair value was impracticable.

We reviewed the 1992 annual reports of 10 large U.S. bank holding companies with significant derivatives activity, including 7 major OTC dealers. Our review showed that these institutions generally were complying with the disclosure requirements listed earlier. However, we

⁶Fair value is defined as the amount at which an item could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

noted some variances in the extent and methods of disclosures. For example, some of the institutions provided extensive coverage of the risk-management process (i.e., credit risk, interest rate and currency risk, and liquidity risk) for financial instruments in the Management Discussion and Analysis section of their annual reports or devoted separate sections to describe the risk-management process. Such discussions alerted the reader to the types of risks inherent in the use of financial instruments, such as interest rate swaps and foreign currency transactions. Other institutions disclosed information in footnotes or supplemental schedules, while still others provided rather limited disclosures. Some clearly quantified the amount of credit risk exposures of counterparties or concentrations of credit risk, and others made disclosures that were less clear.

Because SFAS Nos. 105 and 107 leave financial statement preparers with substantial flexibility in the presentation and level of detail of the required disclosures, the information provided about derivatives and other financial instrument activities is not likely to be consistent or complete, thereby making meaningful analysis of such information by financial statement users very difficult.

Recognizing these inadequacies, FASB recently added a project to its agenda to improve disclosures about derivatives. An exposure draft of a proposed SFAS, Disclosure About Derivative Financial Instruments and Fair Value of Financial Instruments, was released for comment on April 14, 1994. The proposed SFAS would require disclosure of the following information either in the body of the financial statements or in the accompanying footnotes:

- the amounts, nature, and terms of each class of derivatives that are not subject to SFAS No. 105 (because they do not result in off-balance-sheet risk of accounting loss), including differentiation between instruments held or issued for purposes of trading and purposes other than trading;
- the average, maximum, and minimum aggregate fair values during the reporting period of each class of derivatives held or issued for trading purposes, with differentiation between assets and liabilities;
- the net gains or losses arising from derivatives trading activities during the reporting period and where those net trading gains or losses are reported in the income statement;
- a description of the entity's objective for each class of derivatives held or issued for purposes other than trading and how these instruments are reported in the financial statements; and

- a description of anticipated transactions for which the risks are hedged with derivatives, including the expected time frame for the transactions, the amount of related hedging gains and losses that are explicitly deferred, and the transactions or other events that result in recognition of the deferred gains and losses in income.

The proposed SFAS encourages but does not require disclosure of quantitative information about interest rate or other market risks of derivatives that is consistent with the way the entity manages those risks. It also encourages disclosure of such information about other assets and liabilities. The proposed SFAS would also amend SFAS No. 107 to require that fair value information be presented without combining, aggregating, or netting the fair value of separate financial instruments of a different class. It would also require that this information be presented in one location, with the related carrying amounts, in a form that makes it clear whether the amounts are favorable or unfavorable.

The comment deadline for the proposed SFAS is July 1, 1994. FASB expects to issue the final SFAS by the end of 1994. The proposed SFAS would be effective for financial statements issued for fiscal years ending after December 15, 1994, except for entities with less than \$150 million in total assets. For those entities, the effective date would be 1 year later.

Although the proposed SFAS is an improvement over existing disclosure requirements in SFAS No. 105 and SFAS No. 107, we believe there are additional disclosures that would provide financial statement users a more complete understanding of derivatives activities. For instance, the proposed SFAS does not require a clear distinction between dealing activities, speculative activities, and hedging and other risk-management activities. We believe this type of distinction is necessary for a clear understanding of the nature and risks of entities' derivatives activities. As mentioned earlier, the proposed SFAS encourages but does not require that the risks of interest rate and other market changes be quantified and disclosed. We believe these disclosures should be required because of the significant risk that such market changes pose to many entities and to promote consistency in reporting.

We recognize that these additional disclosures will be difficult to immediately implement because of the basic definitional issue we discussed earlier and the systems limitations of some entities. Further study and resolution of these and other disclosure issues are needed so

that this important additional information about derivatives activities can be provided in financial reports.

The disclosures required by SFAS No. 105, No. 107, and the recently proposed SFAS, while not fully satisfactory, are important steps toward helping users of financial statements better understand the risks associated with financial instruments and derivative products in published financial statements. However, disclosure, no matter how complete, is no substitute for consistent and comprehensive accounting rules that would require such risks to be reflected in the derivation of financial statement numbers.

FASB's Financial Instruments Project Is Attempting to Address Gaps in Rules on Accounting for Derivatives

FASB has undertaken an ambitious and comprehensive project on the recognition and measurement of financial instruments. The goal of this complex project is to develop broad accounting rules and disclosure requirements for financial instruments, including derivative products. One approach that FASB is considering is based on the premise that all financial instruments are basically composed of a few fundamental types of financial instruments. Under this approach, a determination of how to recognize and measure these instruments would lead to consistent solutions for the accounting issues raised by more complex instruments as well as activities that establish relationships among financial instruments, such as hedging. The project's scope is broad, covering important topics such as consideration of mark-to-market accounting; hedging and other risk-adjusting activities; securitization of assets; and troubled debt restructurings.

In January 1992, FASB began deliberations on accounting for hedging. In June 1993, FASB issued a report on its deliberations,⁶ including its tentative conclusions. These conclusions included FASB's agreement that deferral hedge accounting would be permitted for hedges of existing assets and liabilities and firm commitments if hedging instruments and hedged items are designated, are highly inversely correlated, and have a clear economic relationship that reduces enterprise (or business unit) risk at inception and during the course of the hedge. FASB was unable to agree on whether to permit deferral hedge accounting for hedges of anticipated transactions. A major impediment to reaching consensus on this issue was that deferral hedge accounting for losses and gains realized on hedges of anticipated transactions does not correlate with the established definitions of assets

⁶A Report on Deliberations, Including Tentative Conclusions on Certain Issues Related to Accounting for Hedging and Other Risk-Adjusting Activities, FASB (Norwalk, CT: June 1993).

and liabilities included in FASB's conceptual framework for financial accounting and reporting.⁷

FASB also tentatively distinguished hedging from other risk-adjusting activities, which include dynamic portfolio management and the creation of synthetic instruments,⁸ such as interest rate swaps. In its June 1993 report, FASB noted that it had trouble dealing with these three categories of activity simultaneously and was concerned that these categories were not clearly enough distinguished from each other. In addition, FASB tentatively concluded that it could see no practical way to apply deferral hedge accounting on a pool basis to a dynamically managed portfolio; however, FASB was soliciting further input on this issue.

In December 1993, FASB decided to put aside all of its previous tentative conclusions and began redeliberating each of the issues it had previously considered. As of April 1994, FASB was exploring two alternative approaches to hedge accounting. The first approach would be to continue along the lines of the conventional hedge accounting model FASB had previously discussed. The second approach would be to more fully develop a recent proposal that would classify all derivatives as either acquired for risk management or trading. All derivatives would be marked to market. Changes in the value of derivatives acquired for trading purposes would be recognized in earnings as they occur. Changes in the value of derivatives acquired for risk management would be reflected in equity to the extent that certain tests are met; otherwise these changes would be recognized in earnings.

As of April 1994, FASB was also planning to revisit the fundamental issue of defining the objective of hedge accounting and the types of transactions that should be afforded special hedge accounting treatment.

⁷These definitions are included in Statement of Financial Accounting Concepts No. 6, Elements of Financial Statements, December 1985. Statement of Financial Accounting Concepts No. 6 defines assets as probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events. Liabilities are defined as probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events.

⁸Synthetic instruments are created by linking two or more distinct instruments whose collective characteristics resemble those of a prototype instrument.

Market Value Accounting Would Help Resolve Hedge Accounting Issues

FASB has discussed market value accounting as a means to resolve many of the hedge accounting issues, including the difficulty in differentiating between speculative and risk-management derivatives activities and determining which of these qualify for deferral hedge accounting. Market value accounting would not, however, solve the issues surrounding anticipatory transactions because it does not address whether these deferred losses and gains can be recorded as assets and liabilities under FASB's conceptual framework. However, it would eliminate much of the other controversy surrounding hedge accounting, particularly for financial institutions.

Current accounting rules do not require comprehensive market value accounting for financial instruments.⁹ As we have previously stated in comment letters, we believe that FASB should consider a market value accounting model for financial institutions. In commenting on recent FASB pronouncements, we have strongly supported market value concepts for loan loss accounting, debt and equity securities, and related liabilities. However, FASB did not adopt such concepts in these pronouncements. As a result, nondealer financial institutions will continue to carry on their balance sheets significant amounts of assets and liabilities at historical cost.

The most prevalent argument for continuing use of the historical cost model is that it is an objective accounting measurement that can be easily determined. However, the historical cost model masks the realities of today's rapidly changing markets and fails to provide investors, depositors, regulators, and others with the full complement of information they need in making business, economic, and regulatory decisions.

The limited disclosure of market realities through footnotes to the financial statements stands in sharp contrast to the extensive market information used to manage the activities of most large and sophisticated entities. These entities are typically managed through constant monitoring—sometimes on a daily or even more frequent basis—of the market values of their financial instruments, including derivative products. Business decisions about how to operate these entities are generally based on a market value accounting model. However, public financial reports of nondealers are generally prepared on the basis of the historical cost model.

⁹Securities firms and other derivatives dealers generally use market value accounting for trading activities. Therefore, any change to broadly adopt market value accounting would have little effect on accounting for these activities. The major effect of market value accounting would be on those activities that are currently accounted for using historical cost.

This disparity clouds financial reports and can mislead users of such reports as to managements' activities. Market value accounting, on the other hand, would provide financial statement users with the bottom line results of managements' end-user hedging activities and would eliminate the potential for inappropriate reporting of hedge gains and losses.

We recognize that numerous implementation issues would have to be studied and resolved before the adoption of a comprehensive market value accounting model was possible. However, the financial instruments project that has been under way for more than 5 years has been unable to satisfactorily resolve issues involved in using the historical cost model. We believe that the development of a market value accounting model for all financial instruments, including derivatives, may well be a valid outcome of the financial instruments project. Such an accounting model would not only solve many of the accounting issues concerning derivatives but, more importantly, would provide a new level of transparency in financial reporting of hedging activities.

Ensuring the Safety and Soundness of Derivatives Activities Will Require International Cooperation

The interrelationships among OTC derivatives dealers and markets worldwide increase the likelihood that a crisis involving derivatives will be global. A crisis beginning abroad can affect U.S. institutions and markets. As a result, unilaterally strengthening U.S. regulation may not be sufficient to protect the U.S. financial system. Such unilateral action also may hamper U.S. product innovation, affect U.S. firms' competitiveness, and encourage firms to move their activities to markets with less regulation. Avoiding these potentially adverse consequences of unilaterally strengthening derivatives regulation in the United States will require U.S. regulators to coordinate with regulators internationally.

Foreign regulators described to us their policies and procedures for regulating derivatives. However, we did not verify their descriptions or compare their practices to the policies and procedures that they described. As a result, we could not compare the quality of foreign regulation to U.S. regulation. We learned that approaches to the regulation of derivatives varied across the countries included in our review. The scope of the financial regulation in most of the countries we reviewed covered all major OTC derivatives dealers. However, requirements for reporting, capital, examinations, and disclosure in public financial statements were not always complete. To date, attempts to coordinate international financial regulation, while achieving some successes, have usually taken considerable time and have not always produced agreement.

Unilateral U.S. Regulatory Action May Not Be Sufficient and Could Have Adverse Consequences

U.S. regulatory action would not address the derivatives activities of all major OTC dealers worldwide. According to our analysis of publicly reported information, financial institutions with the largest derivatives notional/contract amounts worldwide included firms from 11 countries,¹ with firms from France, Switzerland, the United Kingdom, and the United States having the highest volumes. These firms were also actively conducting derivatives activities in markets outside their own countries. For example, most of the major U.S. derivatives dealers we identified had affiliates conducting derivatives activities in other countries, including at least 7 firms that had affiliates in all 7 of the countries we included in our review. Based on data provided by the 14 U.S. dealers that responded to our survey, transactions with foreign dealers represented an average of about 24 percent of the U.S. dealers' combined derivatives notional/contract amounts.

¹Our analysis uses publicly available data compiled by Swaps Monitor Publications, Inc., which publishes a newsletter that tracks the derivatives industry. Other financial institutions may have higher derivatives notional/contract amounts but are not included because of the lack of comprehensive disclosure requirements in many countries (as discussed later in this chapter).

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Regulators worldwide have recognized that improvements are needed in the regulations and standards that apply to derivatives. Given the global nature of derivatives activities, they also recognized that such improvements will require extensive international regulatory cooperation. According to the BIS report, the regulatory staffs of several countries agreed that reducing the risk of an international systemic disruption would require regulators, market participants, and others to act jointly to improve derivatives risk-management and accounting and disclosure practices. The report also suggested that the central banks of various countries work with other financial authorities to ensure that financial institutions are adequately capitalized and have appropriate systems in place for managing and controlling risks. Federal Reserve officials and others noted that greater harmonization among various countries' legal and regulatory systems, such as those governing netting arrangements, would also reduce the risks faced by institutions operating internationally.

U.S. regulators and market participants were concerned that U.S. derivatives regulation could become onerous compared to that of other countries. They feared that such U.S. regulation could adversely affect the ability of U.S. markets and firms to produce innovative products and strategies as well as compete against financial institutions in other countries. A Federal Reserve Board Governor said that regulators must be aware of the potential effects of regulation on competition, efficiency, and innovation in derivatives markets. During a congressional hearing on derivatives, an official of a large U.S. derivatives dealer testified that intense competition forces firms to continually improve the way they manage their derivatives activities. He said that market participants would oppose any regulatory change that reduced this competitive environment.

Coordinating and harmonizing approaches to derivatives regulation also would reduce opportunities for market participants to shift their activities to jurisdictions with less regulation. While the safe and sound markets that can result from effective regulation may attract participants, regulators and market participants in the United States and other countries told us that firms often decide on the country in which to conduct their derivatives activities on the basis of various factors, including differences in regulatory requirements, accounting practices, or tax treatment. A manager for a U.S. securities firm in Japan cautioned that excessive regulation of derivatives in one country would cause trading to move outside that country, leaving its financial institutions at a competitive disadvantage. Regulatory officials and market participants noted that volumes of equity derivatives decreased on Japanese exchanges and

increased on exchanges in Singapore and the United States after Japanese regulatory changes made trading these products more costly.

Foreign Regulatory Approaches Varied

Regulators in the seven foreign countries included in our review² have implemented a variety of approaches addressing derivatives risks, but the activities of the major OTC derivatives dealers were all subject to regulation. Regulatory reporting requirements in these countries addressed derivatives notional volume and some measures of risk, but the type of information reported varied. The capital requirements for banks in these countries are generally similar, but some regulators have placed additional requirements on banks conducting derivatives activities. Four countries have separate capital requirements for securities firms, but these requirements varied. Regulators examine or oversee private sector examinations of the financial institutions using derivatives in these seven countries. Finally, requirements to disclose derivatives activities in public financial statements also varied, but most countries required only limited disclosure.

The Activities of Major OTC Dealers Are Regulated

In contrast to the gaps in U.S. regulation, major OTC derivatives dealers were subject to regulation by at least one regulatory body in all seven of the countries we reviewed. In France, Germany, Japan, Singapore, and the United Kingdom, all derivatives dealers were overseen by either the countries' national banking or securities regulatory bodies or both. However, regulators in two countries—Australia and Switzerland—acknowledged that derivatives activities by some financial institutions were not subject to direct regulation in their countries. They said that the activities of these institutions were not significant enough to concern them.

Regulators Collected Different Information to Assess the Extent and Risk of Derivatives Activities

All regulators obtained some information about derivatives on a monthly or quarterly basis to assess the volume and risks of derivatives activities, but some regulators collected more detailed information than others. As shown in table 7.1, regulators in three of the seven countries collected separate notional/contract totals primarily for forwards, futures, options, and swaps. These totals were subdivided in various ways—for example, by type of underlying (including foreign currencies, interest rate contracts, and equities), by type of market (exchange-traded or OTC), by purpose

²The countries we reviewed were Australia, France, Germany, Japan, Singapore, Switzerland, and the United Kingdom.

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(hedging or speculation), by maturity, or by type of counterparty. Regulators in the other four countries did not collect such information for all derivatives or obtained it only in combination with other products. In addition to notional/contract totals, regulators in six countries obtained other information to assess the extent of market or credit risk associated with derivatives. Such information included derivatives' market values, credit equivalent amounts,³ risk ratios, or capital held to cover market or credit risk.

³Credit equivalent amounts are based on the Basle Accord's current exposure method, which specifies that a contract's credit equivalent amount is the contract's replacement cost or market value plus an additional amount, called an add-on, to reflect potential future credit risk.

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Table 7.1: Regulatory Reporting Requirements for Major OTC Derivatives Dealers in Selected Countries

Country	Requirements for reporting notional/contract amounts	Requirements for reporting amounts for credit or market risk
Australia	Banks report quarterly on forwards, futures, options, and swaps for foreign currencies, interest rates, gold, equities, and other contracts. Banks also make weekly reports on foreign currency derivatives. Securities firms do not report any derivatives positions.	Banks report quarterly on the credit equivalent amount of outstanding transactions.
France ^a	Banks report quarterly on derivatives, grouped as interest rate or currency, exchange-traded or OTC, and hedging or proprietary positions.	Banks report quarterly on unhedged positions.
Germany ^a	Banks report monthly on forwards, futures, options, and swaps related to foreign currencies, interest rates, equities, and other contracts. The information is subdivided by major types of exchange-traded and OTC contracts, by maturity, and by type of counterparty.	Banks report monthly on the delta value of options, ^b the credit equivalent amount of other reported contracts, and three ratios that reflect the extent of foreign exchange risk, interest rate risk, and other market risks.
Japan	Banks and securities firms report monthly on exchange-traded derivatives. ^c	Banks and securities firms report monthly on the market value of exchange-traded derivatives.
Singapore	Banks and securities firms report monthly a combined total for exchange-traded and OTC derivatives.	Banks report monthly on the market value of their unhedged foreign exchange positions for capital purposes.
Switzerland ^a	Banks report monthly on foreign currency derivatives and annually on foreign currencies, forwards, and OTC interest rate contracts.	An annual audit report to regulators comments about risks undertaken and how they are managed.
United Kingdom	Banks report monthly on activities related to foreign currencies and quarterly on forwards, OTC options, and swaps related to interest rates, foreign currencies, precious metals, equities, and other contracts. Depending on the overall nature of their business, some banks provide more detailed information, biweekly or monthly, about derivatives. Securities firms report monthly on the market value of futures, options, and swaps, and submit quarterly reports that provide more detail about specific types of derivatives.	Banks report quarterly on the credit equivalent amount of their contracts. Depending on the overall nature of their business, some banks provide more detailed analyses of their market and credit risks. Securities firms report monthly and quarterly on the amount of capital held to cover market and credit risks with quarterly reports providing more detail on specific types of derivatives.

^aNo separate reporting requirements apply to securities firms because only firms licensed as banks can conduct securities activities.

^bThe delta value of an option measures the sensitivity of the option's price to changes in the price of the underlying contract.

^cThis reporting is by numbers of contracts.

Sources: Compiled from information supplied by the Australian Securities Commission, the Reserve Bank of Australia, the Commission Bancaire (France), the Deutsche Bundesbank (Germany), the Federal Banking Supervisory Office (Germany), the Bank of Japan, the Ministry of Finance (Japan), the Monetary Authority of Singapore, the Federal Banking Commission (Switzerland), the Swiss National Bank, the Bank of England (United Kingdom), and The Securities and Futures Authority Ltd. (United Kingdom).

Most Financial Institutions Were Subject to Capital Requirements

Capital requirements applied to most financial institutions using derivatives in the countries we reviewed. However, some of these requirements covered more of the risks associated with derivatives than others. Four of the seven countries—Australia, Japan, Singapore, and the United Kingdom—had different capital requirements for banks and securities firms. In contrast, France, Germany, and Switzerland, where financial institutions conducting securities activities must also be licensed as banks, required all institutions to meet bank capital requirements.

Bank capital requirements met the standards set by the Basle Accord in all seven countries we reviewed, but some countries had additional capital requirements. As recommended by the Basle Accord,⁴ the seven countries all had bank capital requirements that required specific amounts of capital to cushion against potential losses arising from credit risk, including losses from derivatives. To address market risk, the Monetary Authority of Singapore required domestic banks to hold capital equal to 12 percent of their net positions in foreign exchange activities,⁵ rather than the 8 percent recommended by the Basle Accord. Several bank regulators limited the accumulation of certain risks relative to capital and required banks to report on such risks. Most common were limits on foreign exchange market risk and large credit exposures to any one counterparty. German regulations also limited the accumulation of interest rate risk and other market risks.

Four countries—Australia, Japan, Singapore, and the United Kingdom—had separate capital regulations that applied to securities firms, although the treatment of derivatives under these requirements varied. Similar to firms operating in the United States, securities firms in these four countries generally were required to meet minimum levels of net worth (assets minus liabilities) after making certain adjustments to this net worth—or capital—amount. These adjustments usually involved reducing the values of a firm's assets, including derivatives, by certain amounts so those that are less liquid or that have greater risk faced correspondingly larger reductions.

In Japan, securities firms' capital standards accounted for both the credit and market risks of derivatives activities by requiring firms to reduce the

⁴The capital requirements recommended in the Basle Accord are discussed in detail in chapter 4. At a minimum, the requirements apply to internationally active banks. Regulators may also apply them to domestic banks at their own discretion.

⁵All of this capital must be core capital (tier 1), which includes paid-up share capital/common stock and disclosed reserves/retained earnings.

value of their derivatives positions by certain amounts according to both the creditworthiness of the counterparty and the type of asset underlying the contract. Securities regulators in the United Kingdom also tested a firm's overall credit and market risk in setting capital requirements. Firms were required to reserve a certain amount of capital to cover each of these risks. U.K. regulators recognized that derivatives can be used to hedge market risk and permitted firms to hold less capital for hedged positions. Securities firms in Singapore made some reductions to the value of derivatives, but these reductions did not account for market risk. In Australia, net derivatives positions were included in securities and futures firms' assets but were not reduced to account for their various risks. Securities and futures regulators in Australia noted in March 1994 that they were reviewing these standards, which may result in changes to better address the risks derivatives pose.

The efforts of various international organizations will likely result in changes to the capital requirements in the seven countries we reviewed. For example, certain changes to capital requirements will be implemented in the EC in 1996, while other changes are being negotiated that would apply internationally.

Examinations and Regulatory Guidance Addressed Internal Controls and Risk Management

Regulators in the countries included in our review told us that financial institutions were examined to assess, among other things, the internal controls and risk-management procedures for all activities, including derivatives. It is more common outside the United States for regulators to delegate examination authority to external auditors, although regulators in some countries conducted their own examinations. Most regulators told us that regardless of the approach used, the extent to which derivatives are being addressed in examinations is generally increasing.

Bank examinations in Australia, Germany, Switzerland, and the United Kingdom were done primarily by external audit firms using guidelines established by the regulators. In these countries, the auditors provided regulators with detailed audit reports and discussed any problems identified with the regulators. However, these countries' bank regulators said that they planned to be more involved in examinations in the future. For example, bank regulators in Australia said they will begin visiting banks periodically to increase their understanding of banks' risk-management systems. The Bank of England was establishing a regulatory group responsible for examining banks' risk-assessment models, similar to current practices of U.K. securities firm regulators.

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Although external auditors review German banks' operations, staff from Germany's Bundesbank (the central bank) inspected banks' foreign exchange activity, including derivatives, but these inspections were not done annually.

In contrast to these approaches, regulators in France, Japan, and Singapore and securities firm regulators in Australia and the United Kingdom did their own examinations of the financial institutions they regulate. Australian securities regulators, however, were not authorized to examine certain OTC derivatives. In the United Kingdom, where many U.K., U.S., and other foreign banks and securities firms trade derivatives, a special team of U.K. securities regulators was responsible for approving, testing, and monitoring models that were used to estimate derivatives risk and for generally assessing the quality of risk management among securities firms.

Regulators in four of the countries we reviewed had also issued guidance concerning risk management for the financial institutions they supervised. In 1987 guidance, the Bank of England stated that banks' records and internal controls should identify risk exposure limits, particularly those related to derivatives, monitor compliance with such limits, properly value positions, and ensure that management was adequately informed. In 1990, France's Banking Commission issued a rule addressing the interest rate risk of financial institutions that actively trade securities and derivatives. Under this rule, these institutions must have management systems to immediately record all transactions, track positions globally and by product type, and monitor compliance with limits on risk exposure. Switzerland's Federal Banking Commission and the Monetary Authority of Singapore issued guidance in 1991 and 1992, respectively, for financial institutions using derivatives. The guidance issued by both of these regulators stated that institutions were expected to have clearly defined business procedures and effective internal control systems. Singapore's guidance also emphasized the need for appropriate accounting procedures and informed senior management. Finally, according to a Bundesbank official, German regulations that govern the conduct of foreign exchange activity will likely be expanded to cover all trading activities, including derivatives.

**Derivatives Disclosure in
Some Public Financial
Statements Was Limited**

The extent of derivatives disclosure in foreign public financial statements was specified by regulators or accounting bodies in all but one of the countries we reviewed. While the extent of disclosure was greater in some

countries, regulators and financial institution officials from several countries said that existing requirements generally did not allow regulators and market participants to accurately assess an institution's financial condition. However, regulators in some countries indicated that because their current disclosure requirements were being modified, the amount of information disclosed about derivatives might increase.

Our review of the public financial statements of 28 foreign banks and securities firms from the 7 countries we visited showed that derivatives disclosure ranged from none to disclosure similar to that required of U.S. institutions. Australian disclosure standards did not address derivatives at all. In Japan, Singapore, and Switzerland, banks and securities firms were only required to disclose certain aspects of their derivatives activities, while German banks were required to disclose, in notes to the financial statements, the types of derivatives held and how they were used.⁶ Other countries' disclosure requirements for derivatives were more comprehensive. In the United Kingdom, for example, accounting and disclosure standards were set by the U.K. Accounting Standards Board and supplemented by regulatory requirements and industry recommendations. Accordingly, banks were required to disclose the types and purposes of their derivatives transactions, but also were urged to disclose derivatives' replacement cost, credit risk-weighted amount (based on the Basle Accord), underlying principal amount, and accounting policies related to derivatives. French regulations required financial institutions to make similar disclosures related to derivatives. Although disclosure requirements were not always extensive, financial institution officials in several countries told us they voluntarily disclosed more derivatives information in their financial statements than was required because such disclosure provided more information to investors and market participants.

Accounting rules and disclosure requirements for derivatives were changing in some of the seven countries. The rules and recommended procedures for banks in the United Kingdom were written in 1991 to take effect for accounting periods starting in December 1992. Accounting rules and disclosure standards in Australia and Switzerland were also being revised to improve derivatives coverage.

⁶Financial institutions in Japan were only required to disclose exchange-traded derivative products. In Singapore, institutions must disclose any material losses arising from derivatives. Swiss financial institutions were only required to disclose fixed forward transactions based on securities and precious metals.

International Coordination Efforts Have Achieved Only Mixed Success

As of April 1994, several international regulatory and industry organizations were making efforts to coordinate and harmonize regulatory or market practices for financial institutions, and some of these efforts have achieved success. However, these efforts usually required considerable time, some were not complete, and others failed to produce international agreement.

Among the most important of the efforts were the projects to develop minimum capital requirements for banks and securities firms by the Basle Committee on Banking Supervision, IOSCO, and the EC. The Basle Committee established international capital requirements in 1988 for the credit risk of banks' activities, including derivatives, and has proposed requirements for market risk. IOSCO's efforts to develop international capital requirements for securities firms have been less successful, which in turn has delayed efforts by the Basle Committee and IOSCO to develop common international capital requirements for banks and securities firms. The EC has written capital rules to address credit and market risks for EC banks and securities firms. Such rules are to be fully operational in 1996. As of April 1994, only bank regulators were attempting to develop international models for reporting requirements. Industry groups have made strides in reducing the operational and legal risks of derivatives by harmonizing international practices for transaction documentation. However, uncertainties remained in other legal areas, including the enforceability of netting agreements in different countries. Finally, an international effort led by various countries' bodies for setting accounting standards was attempting to improve the way financial institutions account for and disclose their derivatives activities, but the results of this effort were not expected until the end of 1994 or later.

Bank Regulators Successfully Created International Capital Standards for Credit Risk, but Market Risk Requirements Are Not Yet Final

International efforts to produce capital standards for banks have made progress, although these efforts had required considerable time and were incomplete as of April 1994. After regulators from the United States and the United Kingdom prepared a bilateral accord on bank capital in January 1987, regulatory representatives from the 12 countries that form the Basle Committee on Banking Supervision issued risk-based capital standards for international banks in July 1988. These Basle Accord standards were primarily designed to ensure that internationally active banks have adequate capital to protect against credit risk, including the exposures created by derivatives. Although these standards were finalized in 1988, banks were not required to fully comply until December 1992. The accord also recognized the use of netting by novation for capital adequacy

purposes.⁷ When these capital standards were issued, the Basle Committee indicated that it intended to expand the accord to consider the additional market risks that banks incur, such as interest rate risk and foreign exchange risk.

In January 1991, the Basle Committee issued guidance on controlling large credit exposures, noting that efforts to define acceptable levels of credit concentration in relation to capital as defined by the Basle Accord were appropriate. Whereas the Basle Accord measures credit risk on a portfolio basis, the committee said a different approach was needed to measure credit exposure to a single counterparty. It recommended that regulators measure the full extent of such exposure by including actual and potential claims against a counterparty. It also suggested limiting single counterparty exposures to 25 percent of total capital and requiring banks to report such exposures before they reach that level, for example at no more than 10 percent of capital. It further advised regulators to be aware of other types of credit concentrations, such as those with particular geographic and economic sectors or with different affiliates of the same institution.

In April 1993, the Basle Committee proposed several changes to the Basle Accord. To address the market risk of certain bank activities, the committee proposed that capital charges be applied to banks' trading positions in equities and debt securities, and in foreign exchange, including derivatives.⁸ The committee also proposed recognizing additional types of netting arrangements that would affect the amount of capital needed to cover credit risk. The proposals were expected to be modified on the basis of comments received from regulators and market participants, and as indicated in chapter 4, some commentators in the United States have criticized the approach advocated in these proposals. As of April 1994, no firm date existed as to when any revised proposal would be finalized.

The effect of the Basle Committee's proposals on the level of capital held by banks active in derivatives is difficult to predict. The Chairman of the Basle Committee said he would not expect the market risk proposal to increase capital requirements by more than 1 percent, except in extraordinary circumstances. However, because derivatives can also be

⁷Netting by novation requires that a separate contract be established to combine the obligations of multiple contracts with a single counterparty that are denominated in the same currency and are due on the same date.

⁸This proposal would not apply to derivatives used to hedge nontrading positions.

used to decrease risk, the committee noted that banks with well-hedged positions could actually have lower capital requirements. Moreover, the committee expected that broader recognition of netting for capital purposes would reduce the amount of capital held against banks' credit risk. To take advantage of the new rules on netting, banks would be required to have a netting agreement⁹ with the respective counterparty and would have to provide a legal opinion that such netting is enforceable in both counterparties' jurisdictions. A broader recognition of netting could be particularly beneficial to banks actively dealing in derivatives when they typically have a large number of offsetting contracts with other financial institutions.

Negotiations to Establish International Capital Standards for Securities Firms Have Been Unsuccessful

International efforts to develop minimum capital standards for securities firms have been under way since 1987; however, as of April 1994, regulators had not yet agreed on certain aspects of these standards. The IOSCO working group, formed to study issues related to the capital adequacy of international securities firms, recommended in 1989 that capital standards cover credit and market risks and recognize the risk-reduction potential of hedging techniques.¹⁰ Since then, IOSCO members have had a common understanding about how to measure credit and market risks, but they have not agreed on what level of capital provides adequate protection against the market risk of securities. IOSCO has not held detailed discussions about capital requirements for derivatives.

The lack of agreement among the various securities regulators has also prevented the harmonization of international capital standards for both banks and securities firms. The Basle Committee and IOSCO have jointly discussed the development of such standards. Some IOSCO members also consulted with the Basle Committee as it prepared its proposal to expand bank capital requirements to address market risk. However, the two groups were unable to issue the proposal jointly because of a lack of agreement among IOSCO members on capital standards for international securities firms.

⁹In the event of a counterparty's failure to perform due to default, bankruptcy, or liquidation, such a netting agreement would create a single legal obligation between the parties to exchange only the net value of the sum of the unrealized gains and losses on all transactions included under the terms of the agreement.

¹⁰See Securities Markets: Challenges to Harmonizing International Capital Standards Remain (GAO/IGD-92-41, Mar. 10, 1992).

The EC Plans to Implement New Capital Rules in 1996

Concurrent with the Basle Committee and IOSCO efforts, EC members have been negotiating to establish EC-wide regulations governing banks and securities firms. Since 1989, EC banks have complied with the Solvency Ratio Directive, which is based on the Basle Accord and sets capital requirements to cover credit risk. Beginning in 1996, the Capital Adequacy Directive is expected to be in force, which would set capital requirements for the market risk of certain activities and specific counterparty risk. These directives will apply to banks and securities firms operating in the EC and the European Economic Area.¹¹

In purpose and structure, the Capital Adequacy Directive resembles the Basle Committee's proposal on capital standards for market risk. However, in certain areas, the directive establishes different capital requirements than those proposed by the Basle Committee. The directive acknowledges that its provisions will be revisited on the basis of the experience acquired in applying it, development of international standards, and market innovation.

Efforts to Improve Regulatory Reporting Requirements Are Limited

International organizations have not traditionally focused on developing regulatory reporting requirements but instead have relied on national supervisors to determine the kind of information they need from the financial institutions they regulate. However, several prominent reports that addressed derivatives issues have recommended that better information be made available to regulators about these activities.¹² As a first step in this effort, the Basle Committee has proposed developing a common framework to measure and report banks' interest rate risk.

The Basle Committee's proposal did not recommend a specific methodology for measuring and reporting the interest rate risk of banks but its objective is to help bank regulators identify institutions that have substantial interest rate risk. The proposal recommended that regulators measure the degree of interest rate risk associated with all of a bank's activities, including derivatives. By providing a common reporting framework for interest rate risk, regulators could collect consistent

¹¹The European Economic Area consists of EC member states and five non-EC countries: Austria, Finland, Iceland, Norway, and Sweden. As of January 1, 1994, these five countries agreed to adopt EC regulations governing the financial services industries.

¹²These reports include *Recent Developments in International Interbank Relations*, Report Prepared by a Working Group of the Central Banks of the Group of Ten Countries BIS (Basle, Switzerland: Oct. 1992); *Derivatives: Report of an Internal Working Group*, Bank of England (London: Apr. 1993); *An Integrated Bank Regulatory Approach to Derivatives Activities*, The Institute of International Finance, Inc. (Washington, D.C.: May 1993); *OTC Derivative Markets and Their Regulation*, CFTC (Washington, D.C.: Oct. 1993).

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information and have additional data to further consider how such risk should be measured. Neither IOSCO nor the EC has issued guidance about regulatory reporting, although the EC expected member state regulators to collect sufficient information from banks and securities firms to ensure compliance with the new capital rules.

Other International Efforts
Have Been Undertaken to
Cooperate on Derivatives
Regulation

Some regulators have established other efforts to coordinate and harmonize their approaches to derivatives regulation. On March 15, 1994, SEC, CFTC, and the U.K. Securities and Investments Board announced plans to work together to improve each organization's approach to regulating OTC derivatives. The groups agreed to attempt, among other things, enhancing their information-sharing capabilities and promoting the establishment of capital requirements, sound management controls, and standards for accounting, measurement, and disclosure.

In addition to this effort, IOSCO formed a working group to examine derivatives issues. This group has conducted a survey of derivatives activities in emerging markets and has formed a task force of representatives from regulators, industry, financial institutions, and academia to advise the working group.

Market Participants Have
Reduced Risk by
Standardizing
Documentation, but Other
Legal Issues Remain

Various organizations have worked to standardize documentation used by institutions offering derivatives to reduce the operational and legal risks of these products. In 1987, ISDA produced a recommended standardized contract governing derivatives transactions, known as a master agreement. This document sets out the various terms, definitions, and responsibilities of each party for the covered derivatives transactions. Among the derivatives dealers that responded to the survey done as part of the Group of Thirty report, 74 percent indicated that the method used most frequently to document their transactions was the ISDA Master Agreement. Other organizations—including groups in Japan, the United Kingdom, and the United States—have also developed and agreed to use standardized documentation to eliminate some uncertainty surrounding contracts involving OTC foreign exchange options.¹³ As a result of these efforts, participants in the world's largest foreign exchange markets are expected

¹³These efforts resulted in the International Currency Options Market Master Agreement, which sets out the terms and definitions governing OTC options transactions. This agreement was originally developed by the members of the British Bankers Association and the Foreign Exchange Committee (a group of U.S. regulatory and market participants) for foreign exchange transactions in London and New York. The terms of this agreement will also be used for transactions conducted in Tokyo as a result of another agreement between the U.S. committee and a similar group of market participants active in Japan.

to use the same contract provisions for OTC foreign exchange options transactions.

Other areas of legal uncertainty continue to pose a challenge for international regulators. For example, the uncertain status of the enforceability of netting agreements used for derivatives was a source of concern for 43 percent of the dealers surveyed as part of the Group of Thirty report. Countries that this report identified as not having legislation that specifically recognizes the enforceability of close-out¹⁴ or other types of netting included Australia, Canada, England, Germany, and Japan, although such netting provisions are believed to be enforceable under existing legislation. In addition to netting, other derivatives-related uncertainty also existed in some countries. For example, forward rate agreements, which had a total estimated notional volume of \$2 trillion as of December 1992, were possibly illegal under Japanese laws pertaining to gambling; as a result, Japanese institutions conducted such transactions in foreign affiliates. Other issues of concern included whether some counterparties, such as local governments, had the legal capacity to enter into derivatives transactions in certain countries.

Accounting Organizations Proposed New Accounting and Disclosure Standards

Many regulators around the world considered current accounting practices for derivatives inadequate. They also said that the amount and kind of information disclosed in public financial statements was too limited to adequately assess the risks that derivatives pose to financial institutions. The International Accounting Standards Committee, which includes representatives of various countries' accounting standard-setting bodies, had been working on developing accounting and disclosure standards for financial instruments, including derivatives, since the late 1980s. In January 1994, this group published a second draft of its proposed international standard for accounting and disclosure of these products. The group was planning to seek comments on this proposal until July 1994. A final standard was not expected to be developed until late 1994 or in 1995. Each country's accounting standard-setting body will then have to incorporate this standard into their own requirements.

The Group of Thirty report also recognized the need for consistent and comprehensive reporting of financial instruments internationally and included general recommendations on accounting practices and disclosures for dealers and end-users of derivatives. The various practices

¹⁴Close-out netting provides that in the event that one or both counterparties default, the obligations between the two parties will be netted to produce a single obligation.

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recommended by this report included having dealers account for derivatives transactions by marking them to market and adjusting their income by any resulting gains or losses in value. The report recommended that end-users account for derivatives used to manage risks in a manner consistent with the recognition of income between those derivatives and the assets or liabilities being managed. The report recommended that disclosures be sufficiently comprehensive to provide information about the purpose for which any derivatives transactions were undertaken, the extent of these transactions, the degree of risk involved, and the way these transactions are accounted for. The report also recommended that accounting standards-setting bodies in each country provide comprehensive guidance on accounting and reporting of transactions in financial instruments, including derivatives, and work toward the harmonization of international standards on this subject. The report urged the International Accounting Standards Committee to finalize its proposed accounting standard on financial instruments.

Conclusions and Recommendations

Conclusions

Derivatives serve an important function in the global financial marketplace, providing end-users opportunities to better manage financial risks associated with their business transactions. The rapid growth and increasing complexity of derivatives reflects the increased demand from end-users for better ways to manage their financial risks and from speculators for lower cost ways to potentially profit from market volatility. They also reflect the innovative capacity of the financial services industry to respond to market demands. However, the combination of global involvement, concentration, and linkages among large derivatives dealers means that the sudden failure or complete withdrawal from trading of any of these dealers could heighten the risk of liquidity problems in the markets and pose risk to the others, including federally insured banks and the financial system. In cases of severe financial stress, the federal government is likely to intervene to keep the financial system functioning.

Boards of directors and senior management have primary responsibility for managing derivatives risks. Strong systems of corporate governance must be in place for boards and management to effectively carry out this responsibility. The internal control and audit committee provisions of FDICIA provide a model for strengthening corporate governance systems of major derivatives dealers and end-users. However, FDICIA applies only to large insured depository institutions. Applying the type of corporate governance provisions included in FDICIA to all major dealers would provide needed safeguards for the public's interest. These corporate governance provisions also have applicability to major end-users of complex derivatives and their use would increase the accountability of these companies to investors, creditors, and the general public. We encourage the boards of directors of major dealers and end-users of complex derivative products that do not have in place corporate governance requirements similar to the FDICIA model to establish and implement such improvements. An increased level of corporate responsibility could help avoid the kind of speculative activity that can lead to large unanticipated losses.

Strong risk-management practices could also help major dealers reduce their derivatives risks. However, no regulation exists to bring all major OTC derivatives dealers into compliance with the recent recommendations of the Group of Thirty and guidelines on derivatives' risk management issued by the Federal Reserve and OCC. Regulations would provide a legal framework for bringing all major OTC dealers into compliance with a common set of basic standards essential to effective risk management, such as frequently marking derivatives to market and ensuring the

independence of trading from risk management and other functions. In the absence of regulations, bank regulators must cite unsafe and unsound conditions to force compliance with desired standards, and no legal requirements exist for nonbank derivatives dealers. As a supplementary, more flexible mechanism for updating risk-management standards as the market evolves, guidelines can continue to be used because regulations are difficult to issue and change.

Federal regulators address derivatives activities through a variety of means, but significant gaps and weaknesses exist in the regulation of many major OTC dealers. The Federal Reserve and OCC have required the banks they supervise to report additional information on their derivatives activities. They have also issued guidelines on risk management that include certain of the Group of Thirty's benchmark practice initiatives. However, bank regulators could further improve their oversight and reduce the risks associated with derivatives use by (1) gathering consistent information on large counterparty credit exposures and sources and amounts of derivatives-related income, and maintaining the information in a centralized location accessible to all regulators; (2) revising capital requirements to ensure that all derivatives risks are covered and that legally enforceable netting agreements recognized; and (3) increasing emphasis on the identification and testing of key internal controls over derivatives activities. These improvements could help bank regulators identify potential problems, assess the risks of individual bank activities, and provide an early warning signal for troubled banks.

Federal regulatory authority over the derivatives-dealing affiliates of major securities firms and insurance companies is limited or nonexistent. The information that regulators collect is insufficient for adequate monitoring; capital standards are lacking, and no comprehensive regulatory examinations are performed to ensure the adequacy of the risk-management practices of securities and insurance affiliates. These firms are large and have financial linkages to an increasing number of markets and other firms through a rapidly growing number of derivatives transactions. A direct federal interest exists in the safety and soundness of major bank derivatives dealers because of the Bank Insurance Fund guarantee. However, derivatives transactions carry the same risks to the financial system whether the major OTC dealer is a bank, securities firm, or insurance company. Existing differences in the regulation of derivatives dealers limit the ability of the federal government to anticipate or respond to a crisis started by or involving one of these institutions. With

strengthened, consistent regulation of derivatives dealers, federal regulators could enhance their ability to anticipate or respond to a crisis.

As we have seen, bank derivatives dealers are presently subject to more comprehensive regulation than are nonbank dealers. The regulation of banks is essential, because they have deposit insurance and direct access to the Federal Reserve's discount window. At the same time, however, this combination of deposit insurance and access also can result in potential problems because it may induce the banks and their customers to inappropriately rely on such backing. Therefore, banks may be willing to run greater risks in their trading activities—in relation to their capital—than otherwise would be the case. In addition, market participants may prefer using banks for derivatives and related trading activities simply because banks are perceived to be safer counterparties. In the past, similar concerns caused us to recommend that nontraditional banking activities, such as those associated with underwriting and dealing in corporate debt and equity securities, be conducted only by well-managed and well-capitalized banks in separate subsidiaries of the bank holding company. Whether derivatives should be placed in this category depends on regulators' determinations on how they are being used by individual banks.

Inadequate financial reporting of derivatives activities further compounds regulatory problems and contributes to a lack of knowledge by investors, creditors, and other market participants. While we support FASB's efforts to expeditiously issue specific disclosure requirements for derivatives, we believe FASB also needs to expeditiously issue comprehensive accounting rules for derivative products. Without these accounting rules, added disclosures cannot bring the consistency and clarity to financial statement reporting that is needed to assess the true substance and risks of derivatives activities, particularly end-user hedging activities. In addition, comprehensive rules governing the recording of derivatives transactions will improve the consistency and quality of financial information provided to the regulators. Adopting comprehensive U.S. accounting rules for derivatives will also better enable FASB to take an effective leadership role in working toward more uniform international accounting rules.

FASB has spent considerable time and effort analyzing hedge accounting for derivatives and consulting with derivatives experts. FASB is aware of prevalent accounting practices for hedging strategies currently in use in areas such as anticipatory transactions, dynamic portfolio management, and synthetic instruments. Perhaps more focus on differences in the

underlying objectives of these activities instead of differences in the types of instruments used to achieve these objectives would enable FASB to reach more timely conclusions. An appropriate starting point would be to require that risk-reduction objectives be in place in order for end-user derivatives activities to qualify for deferral hedge accounting.

Market value accounting is ultimately the best solution to accounting for all financial instruments, including derivatives. If all financial instruments were accounted for at market value, financial statements would be almost completely transparent concerning the effectiveness and impact of financial risk management activities. We recognize, however, that development of a new market value accounting model by FASB will take time. Because authoritative accounting standards for derivatives are needed now, short-term adoption of a comprehensive market value accounting model may not be feasible. However, this is a viable long-term objective of FASB's financial instruments project.

Improving U.S. derivatives regulation without coordinating and harmonizing such actions with foreign regulators has at least two risks. First, U.S. financial institutions will remain vulnerable to a crisis that begins abroad and spreads to the United States as a result of the global linkages among financial institutions and markets. Second, regulation that market participants view as too severe could cause firms to move their derivatives activities outside of the United States. However, coordinating and harmonizing regulation worldwide has been difficult to achieve because countries have different legal requirements and different approaches to regulation.

Innovation and creativity are strengths of the U.S. financial services industry, and these strengths should not be eroded by excessive regulation. However, U.S. regulatory gaps and weaknesses must be addressed, especially considering the rapid growth in derivatives activity. Policymakers and regulators must strike a proper balance between (1) allowing the financial services industry to grow and innovate and (2) protecting the safety and soundness of the nation's financial system. Achieving this balance will require unprecedented cooperation among U.S. and foreign regulators, market participants, and members of the accounting profession.

Recommendations to Congress

Given the weaknesses and gaps that impede regulatory preparedness for dealing with a crisis associated with derivatives, we recommend that

Congress require federal regulation of the safety and soundness of all major U.S. OTC derivatives dealers. Regulators should attempt to prevent financial disruptions from turning into crises and resolve crises to minimize risks to the financial system. Thus, firms that become insolvent should be allowed to fail but to do so in an orderly fashion.

The immediate need is for Congress to bring the currently unregulated OTC derivatives activities of securities firm and insurance company affiliates under the purview of one or more of the existing federal financial regulators and to ensure that derivatives regulation is consistent and comprehensive across regulatory agencies. This could be done in several ways. For example, one legislative proposal would accomplish this goal by assigning the responsibility for the unregulated entities to SEC and creating an interagency commission to establish principles and standards for each federal financial regulator to use in supervising derivatives activities. Another approach could be based on the concept that underlies the arrangement established for government securities dealers. Under this concept, lead responsibility for setting principles and standards applicable to all major U.S. derivatives dealers would be divided among existing agencies on the basis of their expertise and mission. Extensive consultation with all of the agencies supervising derivatives activities would be required before any principles or standards were adopted.

We also recommend that Congress begin systematically addressing the need to revamp and modernize the entire U.S. financial regulatory system. Gaps and weaknesses in OTC derivatives regulation clearly demonstrate that the existing regulatory structure has not kept pace with the dramatic and rapid changes in the domestic and global financial markets. Banking, securities, futures, and insurance are no longer separate and distinct industries that can be well regulated by the existing patchwork quilt of federal and state agencies. Many issues need to be debated and decided, including the appropriate uses of federally insured deposits and the extent to which they should be used to finance activities, such as large-scale proprietary trading in derivatives or other financial instruments. One of the first issues that needs to be addressed is how the U.S. regulatory system should be restructured to better reflect the realities of today's rapidly evolving global financial markets. We recommend that the committees of jurisdiction work together on this issue. In addition, these committees should hold hearings, at least annually, on developments that affect the safety, soundness, and stability of the U.S. financial system.

Recommendations to Financial Regulators

We recommend that the appropriate regulatory authorities take the following actions to improve their capability to oversee OTC derivatives activities and to anticipate and respond to any financial crisis involving derivatives. Developing specific solutions should involve working closely with industry representatives to:

- Develop and maintain accurate, current, and centralized information, that is accessible to all regulators, including information on the extent of major OTC dealers' counterparty concentrations and the sources and amounts of their derivatives earnings;
- Develop and adopt a consistent set of capital standards for OTC derivatives dealers sufficient to ensure that all of the major risks associated with derivatives as well as legally enforceable netting agreements are reflected in capital.
- Establish specific requirements for independent, knowledgeable audit committees and internal control reporting for all major OTC derivatives dealers. Internal control reporting by boards of directors, managers, and external auditors should include assessments of derivatives risk-management systems.
- Perform comprehensive, annual examinations of the adequacy of major OTC derivatives dealers' risk-management systems, using a consistent set of standards established for this purpose and including consideration of the internal control assessments performed by boards of directors, management, and auditors.
- Provide leadership in working with industry representatives and regulators from other major countries to harmonize disclosure; capital; legal requirements including netting enforceability; and examination and accounting standards for derivatives.

Recommendations to FASB

We recommend that FASB:

- Proceed expeditiously to issue the existing exposure draft on disclosures of derivatives and fair value of financial instruments.
- Proceed expeditiously to develop and issue an exposure draft that provides comprehensive, consistent accounting rules for derivative products, including expanded disclosure requirements that provide additional needed information about derivatives activities.
- Consider adopting a market value accounting model for all financial instruments, including derivative products.

Recommendations to SEC

We recommend that SEC:

- Ensure that SEC registrants that are major end-users of complex derivative products establish and implement corporate requirements for independent, knowledgeable audit committees and public reporting on internal controls. Internal control reporting by boards of directors, managers, and external auditors should include assessments of derivatives risk-management systems.
- Ensure that FASB proceeds expeditiously to develop and adopt comprehensive, consistent accounting rules and disclosure requirements for derivative products.

Derivatives Use by State and Local Governments and Private Pension Plans

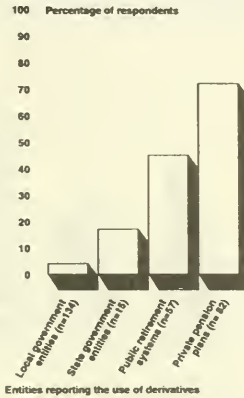
Congressional staff expressed to us their concerns that derivatives may be used inappropriately by a variety of state and local governments as well as public and private pension plans. To address these concerns and to more fully describe the extent and nature of derivatives use, we sent surveys to more than 4,600 state and local government entities that are members of the Government Finance Officers Association (GFOA), a professional association representing more than 10,000 public officials. We also surveyed the 156 largest private pension plans in the United States. Our survey results are limited to the GFOA member government entities and the private pension plans that responded. They are not generalizable to the much larger potential market of public and private sector users of derivatives. Nevertheless, our survey shows the use of derivative products in important segments of the end-user market.

Extent of Derivative Product Use

We asked respondents whether their financial entity had used a derivative (been a party to a derivatives transaction) in their fiscal year 1992. The total number of respondents was 3,727, of which 288 reported using derivatives. The extent of usage varied greatly across the types of entities, from a low of 4 percent of 3,400 localities (municipalities, special districts, and counties represented in GFOA) to a high of 72 percent among the 114 largest private pension plans that responded (see fig. I.1).

Appendix I
Derivatives Use by State and Local
Governments and Private Pension Plans

Figure I.1: Percentage of Respondents
Using Any Derivative Product in Their
Fiscal Year 1992



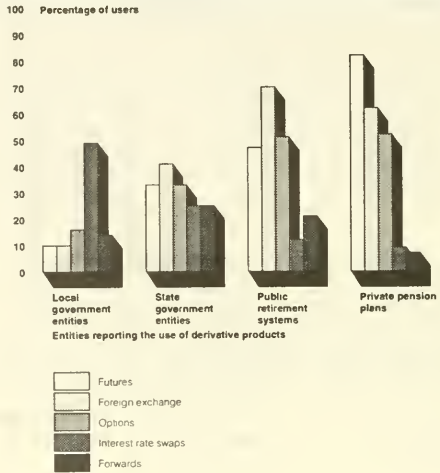
Note: The letter "n" denotes the number of respondents using any derivative product

Source: GAO analysis.

Figure I.2 shows that the various derivative products were used differently by each group of users. The private pension plans and public retirement systems used futures, options, and foreign exchange derivatives (which could have been futures, options, or swaps) more than interest rate swaps and forwards. State government entities used all five products in fairly even proportions, while local government entities mostly used interest rate swaps.

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Governments and Private Pension Plans

Figure I.2: Derivative Product Use by
State and Local Governments and
Private Pension Plans for Their Fiscal
Year 1992



Source: GAO analysis.

Use of Derivatives Linked to Asset Size

Table I.1 shows that larger entities (in terms of assets under management) were more likely to report using at least one derivative product in their fiscal year 1992 or the entities' most recent financial reporting period. The larger entities tended to be the public retirement systems and private pension plans, which as we said earlier, were the most frequent users.

Appendix I
Derivatives Use by State and Local
Governments and Private Pension Plans

Table I.1: The Extent of Derivatives Use for Respondents' Fiscal Year 1992 by Asset Size of Entity (Excluding State Treasuries)

Assets under management	Number of respondents	Percentage using any derivatives
\$5 billion or more	63	76%
\$1 billion to \$5 billion	172	50
\$100 million to \$1 billion	515	13
\$10 million to \$100 million	1,542	4
Less than \$10 million	1,252	1

Note: All the respondents did not answer this question.

Source: GAO analysis.

Asset size appears to be positively related to the usage of derivative products, independent of the type of entity. Table I.2 shows that the users of derivatives within particular categories of financial entities tended to have greater assets than did nonusers in the same category.

Table I.2: Average Asset Size of Users and Nonusers of Derivative Products Among Categories of Entities Surveyed for Their Fiscal Year 1992

Dollars in millions

Type of entity	Users of at least one derivative		Nonusers of derivatives	
	Average market value of assets	Number of respondents	Average market value of assets	Number of respondents
State level	\$14,259.1	11	\$2,803.1	48
Local	490.7	134	80.1	3,142
Public retirement system	9,442.1	56	3,333.3	66
Private pension plans	5,296.8	80	2,599.6	26

Note: All the respondents did not answer this question.

Source: GAO analysis.

Reasons for Use of Derivative Products

We asked respondents who reported using derivative products to either rate the importance of several common reasons for using such products or suggest their own reasons for using each type of derivative. Table I.3 shows the reasons respondents gave for using particular types of derivatives.

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Table I.3: Percentage and Number of Users Citing Reasons for Using a Derivative Product as "Very Important" or "Important"

Derivative product	Reasons							
	To reduce cost of raising capital		As a hedge ^a		To increase rate of return ^b		All other ^c	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Interest rate swap	44%	12	73%	24	71%	20	55%	6
Foreign exchange	8	4	94	62	55	33	67	10
Forward	50	6	69	9	50	7	50	1
Future	11	6	82	56	81	56	88	30
Option	14	6	72	39	81	46	73	8
Other	28	7	86	24	70	19	71	5

Note 1 We based the percentage on the number of respondents who gave an importance rating on a particular derivative product.

Note 2: Number refers to respondents who cited an importance rating of "Very Important" or "Important."

Note 3 All the respondents did not answer this question

^aFor example, to guard against the effects of economic swings

^bApart from hedging or reducing costs

^cIncludes specific instances of the three common reasons and several additional reasons (e.g., reduce transaction costs and manage interest rate risk)

Source: GAO analysis

Reducing the cost of raising capital was not a strong reason for using derivative products, with the possible exception of forwards or swaps. Retirement systems and pension plans did not typically "raise capital" in the financial markets. Therefore, this reason was largely inapplicable to those institutions.

Hedging was the most popular reason for using forwards, interest rate swaps, and foreign exchange derivatives. However, maximizing return on investment was also an important reason for using derivatives, especially for users of futures and options, which tended to be the public retirement systems and private pension plans. When we asked respondents to rate the importance of "increasing the rate of return," we specifically excluded "hedging or reducing costs" from that reason in order to capture what we believed to be the speculative goals of derivative product usage.

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The "other" reasons respondents cited were often technical elaborations on the three common reasons. For example, private pension plans often gave "other" reasons for using futures. Many cited stock index futures as liquid, inexpensive ways to gain equity market or asset class exposure. The few respondents who gave "other" reasons for using options cited the ability to participate in the equity market, reduce transaction costs, and manage interest rate risk.

**Respondent Experiences
 With and Opinions of
 Derivative Products**

Only 4 percent of the respondents indicated that they had experienced "unintended consequences as a result of using any derivative products." The explanations that these eight respondents gave varied. Most simply described routine trading losses from adverse market movements. "As with any investment not all trades work," said one such respondent. In addition, two private pension plans cited the failure of derivatives-based portfolio insurance programs during the 1987 market crash.

Only two derivative product respondents (1 percent of our respondents) reported having filed a complaint or entered into arbitration or litigation with a financial agent over a derivative product transaction. One pursued litigation with a broker-dealer, and another complained to a fund's management with satisfactory results.

**Methodology of
 End-User Survey**

Congress asked us to describe the extent and nature of the use of derivative products by end-users, including governments and public and private retirement systems.

To meet this request, we sent surveys asking for details of recent derivative product usage to more than 4,600 state and local government entities that were members of GFOA. We also surveyed the largest 156 private pension plans in the United States.

To determine if the entities had used any derivative product in their last financial reporting period (their fiscal year 1992), we asked questions about the types of products they used, the reasons the products were used, and the dollar amounts involved. We also asked about positive or negative experiences the entities had with derivative products. The survey was conducted from April through August 1993.

**Survey Frame
 Development**

To meet the requirements of our survey, we needed a frame—a listing, without duplicates or omissions, of each government entity and private

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pension plan in the population of entities we intended to survey. The frame also had to provide a single name and mailing address of a respondent at each entity. We divided the different types of entities we identified into eight strata (see table 1.4).

To develop the survey frame for all of the strata except state treasuries and private pension plans, we obtained the membership rolls of GFOA. GFOA's members are officials from the state and local governments we wanted to survey. We believed these officials would be the most knowledgeable about their governments' use of derivative products. We selected and surveyed one finance officer to represent each government entity. Consequently, results from this survey are not generalizable to the broader population of all state and local government entities in the United States but only to those with one or more finance officers who were GFOA members as of November 1992.

To develop the survey frame for the state treasuries stratum, the National Association of State Auditors, Comptrollers and Treasurers and GFOA helped us compile a list of the 50 state treasuries. On the basis of previous contacts with the state treasurers, we determined that some were not currently using derivatives. As a result, we did not further contact those state treasuries, designating them as nonusers for the purpose of our survey.

To develop a survey frame for the private pension plans stratum, we obtained a list of the largest plans by asset size, which equaled 200 pension plans. From this list, we kept only the 156 private pension plans, removing public employee retirement systems that were covered by our other lists of government entities. Results from the survey of the largest 156 private pension plans can only be used to make statements about that group and are not generalizable to the broader population of all private pension plans in the United States.

Survey Design and Administration

We developed our surveys after consulting government finance experts from GFOA. We also solicited comments on the surveys from municipal finance consultants and a number of government finance officers. The surveys were then pretested with respondents from several typical government entities and revised accordingly.

All of the government entities, with the exception of the state treasuries, first received a one-page screening survey, which solicited basic

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information on the use of derivative products in fiscal year 1992 or their most recent financial reporting period. We sent a longer follow-up survey, which requested information on the amounts entities held in derivatives and their reasons for using derivatives, to respondents who indicated using at least one type of derivative product on the screening survey.

For the 50 state treasuries, we used previously collected information to determine whether a state used derivatives in its fiscal year 1992. We sent follow-up surveys to those entities we understood to be using derivatives and those we were not sure about, so that respondents would not have to fill out the screening survey. (See app. II for copies of the two types of surveys.)

We also sent each private pension plan a follow-up survey without first sending a screening survey, because we expected most private pension plans to be users of derivatives. The survey we sent to private pension plans was identical to the one sent to government entities except for the title and references to the type of organization in the text of some of the questions.

The first wave of 4,794 screening and follow-up surveys was mailed out in late April 1993. We sent follow-up surveys in June and July to respondents who indicated that they used derivative products. After July, we sent follow-up surveys to respondents as their screening surveys were received. We sent a total of 156 follow-up surveys to users identified through screening surveys.

To those who did not respond to the first wave of surveys, we sent a second wave of 2,227 replacement surveys and a reminder letter in late May and early June. This number indicates that 2,567, or approximately 54 percent of the original survey population, had responded or been accounted for in some way at the end of the first wave.

In late July 1993, we began to call a limited number of entities (62) that had not yet responded. In some cases, respondents were successfully persuaded to complete all or part of their surveys by mail or fax or through telephone conversations with our staff.

In mid-August 1993, we closed out the survey and finalized the data.

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Derivatives Use by State and Local
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Survey Response

We finished sending out surveys and calling respondents in August 1993. The results of our survey efforts are shown in table I.4.

Table I.4: Survey Dispositions for
End-User Survey

Strata	Original population (number mailed)	Adjusted population ^a	Valid responses received	Response rate ^b
Local-level entities				
Municipalities	2,796	2,774	2,181	79
Counties	542	541	404	75
Special districts	1,040	1,034	815	79
State-level entities				
State treasuries	35 ^c	50 ^c	37 ^c	74 ^c
Other state-level entities	65	69	50	72
Public retirement systems				
Local retirement systems	99	96	82	85
State retirement systems	56	56	44	79
Private pension plans	161	156	114	73
Total	4,794	4,776	3,727	78

^aAdjustments to the original population (first mailing) occurred for a number of reasons, including discoveries of misclassification of entities into incorrect strata, ineligible entities, duplicate listings, or mergers. In addition, state treasuries not included in the mail survey are reflected here.

^bThe response rates are determined by dividing the total number of valid responses received by the adjusted population. In cases where a screening survey was returned by a government entity but a follow-up survey sent to that entity was not returned, the entity was still considered to have "responded."

^cData for state treasuries reflect information previously collected on 15 states without using a mail survey.

Source: GAO analysis.

Survey Error and Data Quality

Because we surveyed all of the elements in the population of interest we had defined and because we did not project the results of our survey to a broader population, our results were not subject to sampling error. However, all survey data are subject to various types of nonsampling error, such as systematic biases introduced by the absence of nonrespondents, imperfections in the frame, and omissions or erroneous answers made by respondents.

For example, we asked respondents to indicate whether they used derivatives. We also asked them to indicate the amounts of their

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investments, using specific definitions, time periods, and methods of valuation. The quality of their answers depended upon their understanding of our requests and their ability to retrieve the information from their financial records in a format that would have been compatible with our questions. In addition, the findings on the existence and size of derivative product holdings represent a snapshot of the financial positions of the entities in the months before the survey was administered, yet portfolio composition and size can fluctuate rapidly.

Although we did not validate the answers our respondents made to our survey questions, we took a number of steps to check the quality of our survey data. We checked the accuracy of data entry and data processing on a sample of surveys. In addition to carefully pretesting our survey questions to minimize reporting error and nonresponse, we also compared the responses to our first mailing with those of entities that would otherwise have been nonrespondents if not for our telephone contact at the end of the survey. We attempted to discover whether those more likely to be nonrespondents differed significantly from early respondents over key questions or characteristics. We found that they did not. However, we have no way of knowing how the rest of the nonrespondents would have answered.

Appendix II

GAO's Surveys on the Use of Financial Derivative Products by State and Local Government Entities

Screening Survey



United States General Accounting Office

Survey on the Use of Financial Derivative Products by State and Local Governmental Entities

INTRODUCTION

The U.S. General Accounting Office (GAO), an independent agency of Congress, has been asked to identify the nature and extent of the use of derivative products. Some examples of derivatives include forwards, futures, options on a stock, and swaps.

Your assistance in answering the following questions will help us determine how many state and local governmental entities have used derivative products. Although your participation in this survey is completely voluntary, your frank and honest answers will help GAO advise Congress.

The questionnaire should take only a few minutes to complete. Some respondents may receive a follow-up questionnaire on this subject at a later date. If you have any questions, please call Mr. Jerry Schober, Ms. Tamara Cross, or Mr. Steven Lozano at (202) 512-7310. Please return the completed questionnaire in the enclosed preaddressed, prepaid envelope within 5 working days of receipt. In the event the envelope is misplaced, our return address is:

U.S. General Accounting Office
Mr. Jerry Schober
441 G Street, NW, Room 3126
Washington, D.C. 20548

Thank you for your cooperation and assistance.

INSTRUCTIONS

- Please respond to the questionnaire even if your governmental jurisdiction or entity does not use derivative products.
- This questionnaire should be filled out by the government official(s) in your jurisdiction or entity most familiar with the overall management of and accounting for investments. Please DO NOT forward to a financial advisor, broker, or accountant outside this government.
- Estimates of dollar amounts will suffice.

Please provide the following information so that we may contact you if we need to clarify a response.

Name of primary respondent: _____

Title: _____

Jurisdiction/entity: _____

Telephone: () _____ -- _____

* * * * *

- 1 Please enter the total market value of all assets you are managing, including any derivatives, as reported in your most recently published financial statement or annual report, OR USING YOUR BEST ESTIMATE.

(Please enter a whole dollar figure and the date for which the amount is reported. If the amount is an estimate of the current value, leave the date blank.)

1 Assets \$ _____ 00

2 As of: _____
MM DO YY

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2. During or before your fiscal year 1992, has your governmental jurisdiction/entity used any of the following types of financial derivative products? *(Check one or more boxes in each row.)*

	Yes, during FY 1992 (1)	Yes, before FY 1992 (2)	No (3)
1. Interest rate swaps			
2. Foreign exchange swaps, forwards, futures, or options			
3. Forwards (excluding foreign exchange)			
4. Futures (excluding foreign exchange)			
5. Options (excluding foreign exchange)			
6. Any other derivative products (e.g., equity derivatives, interest rate caps, collars, or floors) <i>Please specify.</i>			

If you checked Column (1) ("Yes, during FY 1992") for any item in Question 2 above, continue with Question 3.

Otherwise, skip to Question 5.

3. Are any of the derivative products you checked in Question 2 managed in a pooled investment fund of another governmental entity? *(Check one)*

1. ☐ Yes *(Continue to Question 4)*
2. ☐ No
3. ☐ Don't know
- (Skip to Question 5)*

4. Please identify the government official most familiar with the overall management of and accounting for investments at that pooled investment fund:

Name: _____

Title: _____

Name of fund/entity: _____

Address: _____

Telephone: () - - - -

5. If you have any comments on anything in this questionnaire, or on your experiences with derivative products, please use the space provided below and, if necessary, attach additional sheets.

Thank you for your time and care in filling out this questionnaire. Please return it to us in the envelope provided, or mail it to the address on the front within 5 working days.

GGD/CW/6-91/211176

United States General Accounting Office



Survey of State and Local Governmental Entities Using Financial Derivative Products

INTRODUCTION

The U.S. General Accounting Office (GAO), an independent agency of Congress, has been asked to identify the nature and extent of the use of derivative products. Some examples of derivatives include futures, forwards, options on a stock, and swaps.

In an earlier survey, we learned that your governmental jurisdiction or entity used at least one financial derivative product in the last year. This questionnaire asks you to briefly describe your use of derivatives. Although your participation in this survey is completely voluntary, your frank and honest answers will help GAO advise Congress. Responses to this survey will be reported by GAO only in the aggregate.

The questionnaire can be completed within 30 minutes, depending upon the availability of financial records or your use of estimates. Space has been provided at the end of the questionnaire for any comments you may want to make. If you have any questions, please call Mr. Jerry Schober, Ms. Tamara Cross, or Mr. Steven Lozano at (202) 512-7310.

Please return the completed questionnaire in the enclosed preaddressed, prepaid envelope *within 10 working days of receipt*. In the event that the envelope is misplaced, our return address is:

U. S. General Accounting Office
Mr. Jerry Schober
441 O Street, NW, Room 3126
Washington, D.C. 20548

Thank you for your cooperation and assistance.

I. INSTRUCTIONS

- Use estimates when answering questions that ask for dollar amounts if exact figures are not readily available.
- This questionnaire should be filled out by the government official(s) in your jurisdiction or entity most familiar with the overall management of and accounting for investments. Please DO NOT forward to a financial advisor, broker, or accountant outside this government.
- Most of the information requested pertains to your most recently completed fiscal year or other reporting period.

• • • • •

Please provide the following information so that we may contact you if we need to clarify a response.

Name of primary respondent: _____

Title: _____

Jurisdiction/entity: _____

Telephone: () - _____

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GAO's Surveys on the Use of Financial
Derivative Products by State and Local
Government Entities

II. BACKGROUND

1. Please enter the total market value of all assets and liabilities you are managing, as reported in your most recently published financial statement or annual report, OR USING YOUR BEST ESTIMATE. (Please enter whole dollar figures and the date for which the amounts are reported. If the amounts are estimates of current values, leave the date blank.)

1. Assets: \$ _____ . 00

2. Liabilities \$ _____ . 00

3. As of: | | |
 mm dd yy

2. Please provide the following information: (1) your most recent, unenhanced credit rating; (2) the type of security, product, or entity receiving this rating; and (3) the agency issuing the rating:

1. Credit rating: _____

2. What was rated: _____

3. Rating agency: _____

III. USE OF DERIVATIVE PRODUCTS

This section covers derivative products that your governmental jurisdiction/entity may have used during its last fiscal year. For each one, tell us whether you have used it and, if so, the amounts of money involved and why it was used.

The types of derivative products to be covered are:

- A. Interest rate swaps
- B. Foreign exchange: swaps, futures, forwards, and options
- C. Forwards (excluding foreign exchange)
- D. Futures (excluding foreign exchange)
- E. Options (excluding foreign exchange)
- F. Any other derivative products (e.g., equity derivatives, interest rate caps, collars, and floors)

A. INTEREST RATE SWAPS

3. Have you used any INTEREST RATE SWAPS (DO NOT include foreign exchange swaps on this page) at any time during your last fiscal year? (Check one.)

1. ☐ Yes ————— (Continue to Question 4.)
 2. ☐ No }
 3. ☐ Do not know } (Skip to Question 8, on page 4.)

4. What is the total notional amount of all the interest rate swaps you have entered into during your last fiscal year? (Enter whole dollar figures from financial statements OR USE YOUR BEST ESTIMATE. If none, enter "0".)

\$ _____ . 00

5. For your interest rate swaps outstanding, if any, what is the total amount YOU ARE OWED, if available? (Enter whole dollar figures from financial statements OR USE YOUR BEST ESTIMATE. If none, enter "0".)

\$ _____ . 00

6. For your interest rate swaps outstanding, if any, what is the total amount YOU OWE, if available? (Enter whole dollar figures from financial statements OR USE YOUR BEST ESTIMATE. If none, enter "0".)

\$ _____ . 00

7. How important or unimportant were each of the following reasons in your decision to use INTEREST RATE SWAPS during your last fiscal year? (Check one box in each row.)

Reasons	Very important (1)	Important (2)	Neither important nor unimportant (3)	Unimportant (4)	Very unimportant (5)	Don't know/ No basis to judge (6)
1. To reduce cost of raising capital						
2. As a hedge (against economic swings, etc.)						
3. To increase rate of return (apart from hedging or reducing costs)						
4. Other reasons: (Specify.)						

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B. FOREIGN EXCHANGE:
SWAPS, FUTURES, FORWARDS, OR OPTIONS

8. Have you used any swaps, futures, forwards, or options involving FOREIGN EXCHANGE, at any time during your last fiscal year? (Check one.)
- ☐ Yes

☐ No

☐ Do not know

→

}

(Continue to Question 9.)

(Skip to Question 11, page 6.)
9. Please enter the dollar amounts of holdings, if any, in FOREIGN EXCHANGE SWAPS, FUTURES, FORWARDS, OR OPTIONS, as reported in your most recently published financial statement or annual report, OR USING YOUR BEST ESTIMATE. (Please enter whole dollar figures; if you do not have actual amounts readily available, USE YOUR BEST ESTIMATE. If none, enter "0".)

Foreign Exchange		Amounts
A Swaps		
1.	Total notional/contract amount (in U.S. \$)	\$
2.	Amounts YOU ARE OWED, if available	\$
3.	Amounts YOU OWE, if available	\$
B Futures		
1.	Total notional/contract amount (in U.S. \$)	\$
2.	Market value	\$
C Forwards		
1.	Total notional/contract amount (in U.S. \$)	\$
2.	Market value	\$
D. Options (Enter the lower of cash or market value, in U.S. \$.)		
1.	Puts – exchange traded	\$
2.	Puts – over-the-counter	\$
3.	Calls – exchange traded	\$
4.	Calls – over-the-counter	\$

- 10 How important or unimportant were each of the following reasons in your decision to use FOREIGN EXCHANGE SWAPS, FUTURES, FORWARDS, OR OPTIONS during your last fiscal year? (Check one box in each row.)

Reasons	Very important	Important	Neither important nor unimportant	Unimportant	Very unimportant	Don't know/ No basis to judge
	(1)	(2)	(3)	(4)	(5)	(6)
1. To reduce cost of raising capital						
2. As a hedge (against economic swings, etc.)						
3. To increase rate of return (apart from hedging or reducing costs)						
4. Other reasons: (Specify)						

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C. FORWARDS

11. Have you used any FORWARDS at any time during your last fiscal year? (DO NOT include foreign exchange forwards in this answer.) (Check one.)

1. ☐ Yes → (Continue to Question 12.)
 2. ☐ No
 3. ☐ Do not know } (Skip to Question 14, page 7.)

12. Please enter the dollar amounts of holdings, if any, in FORWARDS, as reported in your most recently published financial statement or annual report, OR USING YOUR BEST ESTIMATE.
 (Please enter whole dollar figures; if you do not have actual amounts readily available, USE YOUR BEST ESTIMATE. If none, enter "0")

Forwards (excluding foreign exchange)	Amounts
A. U.S. Treasury - total notional/contract amount	\$
B. Other (Please specify) - total notional/contract amount	\$
C. MARKET VALUE of all financial forwards	\$

13. How important or unimportant were each of the following reasons in your decision to enter into FORWARDS contracts during your last fiscal year? (Check one box in each row.)

Reasons	Very important (1)	Important (2)	Neither important nor unimportant (3)	Unimportant (4)	Very unimportant (5)	Don't know/ No basis to judge (6)
1. To reduce cost of raising capital						
2. As a hedge (against economic swings, etc.)						
3. To increase rate of return (apart from hedging or reducing costs)						
4. Other reasons. (Specify.)						

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D. FUTURES

14. Have you used any FUTURES at any time during your last fiscal year? (DO NOT include foreign exchange futures in this answer) (Check one.)

- 1 ☐ Yes → (Continue to Question 15.)
2 ☐ No } (Skip to Question 17, page 8.)
3 ☐ Do not know }

15. Please enter the total notional/contract amounts, if any, of FUTURES, as reported in your most recently published financial statement or annual report, OR USING YOUR BEST ESTIMATE. (Please enter whole dollar figures; if you do not have actual amounts readily available, USE YOUR BEST ESTIMATE. If none, enter "0".)

Futures (excluding foreign exchange)	Amounts
A. U.S. Treasury -- total notional/contract amount	\$
B. Other (Please specify) -- total notional/contract amount	\$
C. MARKET VALUE of all financial futures	\$

16. How important or unimportant were each of the following reasons in your decision to use FUTURES during your last fiscal year? (Check one box in each row.)

Reasons	Very important (1)	Important (2)	Neither important nor unimportant (3)	Unimportant (4)	Very unimportant (5)	Don't know/ No basis to judge (6)
1. To reduce cost of raising capital						
2. As a hedge (against economic swings, etc.)						
3. To increase rate of return (apart from hedging or reducing costs)						
4. Other reasons: (Specify.)						

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Government Entities

E. OPTIONS

- 17 Have you used any OPTIONS at any time during your last fiscal year? (DO NOT include call options on bonds outstanding or foreign currency options in this answer.)
(Check one.)

1. ☐ Yes → (Continue to Question 18.)
2. ☐ No } (Skip to Question 20, page 9.)
3. ☐ Do not know }

- 18 Please enter the dollar amounts of holdings, if any, in OPTIONS, as reported in your most recently published financial statement or annual report, OR USING YOUR BEST ESTIMATE. (Please enter whole dollar figures, if you do not have actual amounts readily available, USE YOUR BEST ESTIMATE. If none, enter "0".)

Options (excluding foreign exchange)	Amounts
A. Dollar value of PUT options, using the lower of cash or market value	
1. Exchange-traded options	\$
2. Over-the-counter options	\$
B. Dollar value of CALL options, using the lower of cash or market value	
1. Exchange-traded options	\$
2. Over-the-counter options	\$

- 19 How important or unimportant were each of the following reasons in your decision to use OPTIONS during your last fiscal year? (Check one box in each row)

Reasons:	Very important (1)	Important (2)	Neither important nor unimportant (3)	Unimportant (4)	Very unimportant (5)	Don't know/ No basis to judge (6)
1. To reduce cost of raising capital						
2. As a hedge (against economic swings, etc.)						
3. To increase rate of return (apart from hedging or reducing costs)						
4. Other reasons (Specify.)						

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Derivative Products by State and Local
Government Entities

F. ANY OTHER FINANCIAL DERIVATIVE PRODUCTS
(e.g., equity derivatives, interest rate caps, collars, floors, etc.)

- 20 Have you used any OTHER FINANCIAL DERIVATIVE PRODUCTS, such as equity derivatives, interest rate caps, collars, or floors, etc., at any time during your last fiscal year? (Check one.)

1. ☐ Yes —————> (Continue to Question 21.)
2. ☐ No }
3. ☐ Do not know } (Skip to Question 23, page 10.)

- 21 Please enter the total notional/contract amount of holdings, if any, of OTHER FINANCIAL DERIVATIVE PRODUCT(S), as reported in your most recently published financial statement or annual report, OR USING YOUR BEST ESTIMATE. (Please describe these products, and enter whole dollar figures; if you do not have actual amounts readily available, USE YOUR BEST ESTIMATE. If none, enter "0".)

Other Derivative Products	Amounts
Describe products and enter total notional/contract amounts: (Attach additional sheets if necessary.) _____ _____	\$

- 22 How important or unimportant were each of the following reasons in your decision to use OTHER FINANCIAL DERIVATIVE PRODUCT(S) during your last fiscal year? (Check one box in each row.)

Reasons	Very important (1)	Important (2)	Neither important nor unimportant (3)	Unimportant (4)	Very unimportant (5)	Don't know/ No basis to judge (6)
1. To reduce cost of raising capital						
2. As a hedge (against economic swings, etc.)						
3. To increase rate of return (apart from hedging or reducing costs)						
4. Other reasons: (Specify.)						

Appendix II
GAO's Surveys on the Use of Financial
Derivative Products by State and Local
Government Entities

IV. OTHER ISSUES

We are interested in learning about the extent of risk involved in the use of financial derivative products. We are aware that the use of certain derivative products for hedging can result in losses. Because limited information on losses is available, please share with us any negative or unanticipated experiences your government has had with derivatives.

23. Has your governmental jurisdiction or entity ever experienced any unintended consequences as a result of using any derivative products? *(Check one.)*

1. ☐ Yes → Please describe: _____

2. ☐ No

3. ☐ Do not know

24. Has your governmental jurisdiction or entity ever filed a complaint or been involved in (or is currently contemplating) arbitration or litigation with a broker-dealer, bank, or other financial agent over a derivative product? *(Check one.)*

1. ☐ Yes → Please describe: _____

2. ☐ No

3. ☐ Do not know

Appendix II
GAO's Surveys on the Use of Financial
Derivative Products by State and Local
Government Entities

V. COMMENTS

25. If you have any comments on this survey or additional comments on your positive and/or negative experiences with derivative products, please use the space provided below and attach additional sheets if necessary.

Thank you very much for your time and care in filling out this questionnaire.
Please return it to us in the envelope provided, or mail it to the address listed on the front cover.

ODD/CRA-93
23376

GAO's Survey of Major OTC Derivatives Dealers

Substantial data about the derivatives markets are available through various regulatory reports, corporate annual reports, and other sources. Many of these data are incomplete and inconsistent regarding the derivatives markets as a whole. Rigorous quantitative data and other information regarding the economic risk exposures and risk-management practices of individual firms are also lacking. We were interested in learning more about the 15 firms that we identified as major over-the-counter (OTC) derivatives dealers.

All of the 15 major OTC derivatives dealers are members of the International Swaps and Derivatives Association (ISDA). We met with ISDA representatives to discuss possible methodologies for the survey. ISDA representatives said that on the basis of their own experience and discussions with the major OTC dealers, the best way to maximize the response to our survey would be to work through a neutral third-party. They suggested we use Arthur Andersen & Co. to distribute the survey and subsequently collect and compile the data from the firms that responded.

They also suggested that we include foreign dealers in our survey. We agreed to survey foreign dealers, but we asked that their responses be kept separate from the 15 U.S. firms. Because the response rate of foreign firms was not high, we did not include the responses of the foreign dealers in the summary of our survey results. After meeting with ISDA representatives, we refined and clarified the survey.

The survey attempted to identify (1) the aggregate, net economic exposure of the dealers; (2) the concentration of this exposure to types of firms; (3) the use of different risk reduction techniques and the other steps firms took to address risk management; (4) the credit quality of the derivatives portfolios and of the firms themselves; (5) the amount of credit losses and other losses experienced; and (6) additional items of interest.

A copy of the survey with data from the 14 major OTC dealers that responded, as compiled by Arthur Andersen & Co., follows. We present responses to questions 1 through 10 as aggregated totals or averages for the firms. We present narrative summaries of the responses to questions 11 through 12. Arthur Andersen & Co. deleted the names of the firms in the responses; we indicate these deletions with [].

Appendix III
GAO's Survey of Major OTC Derivatives
Dealers

OTC DERIVATIVES
CONFIDENTIAL SURVEY OF U.S. DEALER INSTITUTIONS
PREPARED FOR THE
U.S. GENERAL ACCOUNTING OFFICE
BY
ARTHUR ANDERSEN & CO.

Appendix III
GAO's Survey of Major OTC Derivatives
Dealers

General Accounting Office
OTC Derivatives Survey

FIRMS PARTICIPATING IN THE SURVEY

Responses Received

Bank of America
Bankers Trust Co.
Chase Manhattan
Chemical Bank
Citibank, N.A.
First Chicago
General Re
Goldman, Sachs & Co.
JP Morgan
Lehman Brothers
Merrill Lynch
Morgan Stanley
Prudential Corp.
Salomon Brothers

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GAO's Survey of Major OTC Derivatives
Dealers

1992 Results

General Accounting Office
 OTC Derivatives Survey

1a Please indicate the notional/contract amounts for the total of your derivative transactions along with the related amounts at risk of accounting loss according to Statement of Financial Accounting Standards (SFAS) 105. Please show how this amount may be affected by market factors or risk reduction techniques such as those listed below or others that you may employ.

As of Year End 1992	Type of Product			Commodity equity and other (c)	Total	FX<=1yr FX>2wks(d)
	Interest rate	Currency derivatives (a)	FX>1yr (b)			
Total derivative product notional/contract amount	4 406 539 000 000	1 086 908 000 000	571 430 000 000	294 180 000 000	6 472 263 000 000	1 629 051 000 000
Gross credit exposures amount at risk of accounting loss	45 308 000 000	34 579 700 000	17 061 106 000	4 015 000 000	114 442 800 000	33 327 950 000
Less						
Netting agreements (e)					41 228 300 000	517 000 000
Collateral					4 682 050 000	30 000 000
Other (please specify)					48 000 000	0
Total net credit exposure					68 486 450 000	32 775 950 000
Potential future exposure (f)					19 110 000 000	40 000 000

Total Number of Respondents to Question 1a 14

[Above amounts represent the sum of individual responses.]

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GAO's Survey of Major OTC Derivatives
Dealers

1992 Results

General Accounting Office
OTC Derivatives Survey

2. Approximately how many different counterparties were there for all of your firm's OTC derivative product transactions in 1992? (Note: please consider any entity for which you have one or more master netting agreements to be a separate counterparty.)

	22,592	(Sum of all respondents)
Number of Respondents	14	Average 1,814

- 3.* What percentage of your firm's OTC derivative transactions are with other derivative products dealers and other institutions (location determined by nationality of head office)?

Type of counterparty	Percentage at year - end 1992	
	Notional/contract amount	Net credit exposure (*)
U.S. dealers	21.04%	10.97%
Non-U.S. dealers	23.54%	27.18%
Other	55.42%	61.87%
Total	100.0%	100.0%
Number of Respondents:	14	

* [Question 3 presents the weighted average of all respondents, weighted by individual contract amount or net credit exposure as applicable.]

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GAO's Survey of Major OTC Derivatives
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1992 Results

General Accounting Office
OTC Derivatives Survey

4.* Please estimate the percentage of all your firm's OTC derivative transactions that are subject to the following credit risk reduction techniques.

Percentage of notional / contract amount	
Technique	Year-End 1992
Enforceable netting agreements (a)	74.89%
Collateral	4.82%
Others (specify)	2.91%
(a) FASB Interp. No. 39	
Number of Respondents:	12

* [Question 4 presents the weighted average of all respondents, weighted by individual contract amount or net credit exposure as applicable.]

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1992 Results

General Accounting Office
OTC Derivatives Survey

- 5.a. Please indicate the percentage of your OTC derivative portfolio (as of year-end 1992) with counterparties rated, after credit enhancement (by Moodys, Standard & Poor's, or their equivalent, including internal rating criteria), as a:

	Percentage of	
	Notional / contract amount	Current credit exposure
Investment grade (BBB or above)	94.47%	93.78%
Non investment grade	5.53%	6.22%
Total	100.0%	100.0%
Number of Respondent	13	13

[Question 5a represents a weighted average (based on notional contract amount or current credit exposure as applicable) of all responses.]

- 5.b. Is this higher or lower than the credit quality of your loan book (if any)?

Higher 7 Lower 0 NA 7

[Question 5.b. is a sum of all responses.]

Note: Firms not responding do not have a loan book to compare credit quality against.

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1992 Results

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6. What percentage of your firm's pre-tax revenues were attributable to your OTC derivatives business, including increased trading revenues, fee income, asset/liability management, proprietary position taking, etc. (a best estimate may be appropriate)?

1992 15.26%

Number of
Respondents

8

[Question 6 is a simple average of individual responses.]

7. Please provide the following information about all OTC derivative product credit losses for the years indicated

	Amount of credit exposure when terminated	Amount charged-off	Amount recovered
1992	259,199,775	246,088,463	10,500,000

8. Please indicate the amount of the non-credit losses incurred on your OTC derivative product portfolio that resulted from unanticipated events, e.g., mispriced options, employee fraud, failure of internal controls, etc.

1992

0

[Results presented for questions 7 and 8 are
a sum of all responses.]

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GAO's Survey of Major OTC Derivatives
Dealers

1992 Results

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 OTC Derivatives Survey

9. For your portfolio at year-end, please indicate the approximate range and remaining average life of your interest rate and currency swaps. Also, please indicate the average remaining life weighted by the notional/contract amount of the transactions. Please specify days, months, or years.

9a. Remaining Tenor of Interest Rate Swaps

At year-end	Range of maturities		Weighted average life	Number of Respondents
	Shortest	Longest		
1992 or current	0	30	2.82	14

9b. Remaining Tenor of Currency Swaps

At year-end	Range of maturities		Weighted average life	Number of Respondents
	Shortest	Longest		
1992 or current	0	19	2.73	14

[Results presented for questions 9a and 9b are a weighted average of all responses using notional contract amount as the weight.]

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GAO's Survey of Major OTC Derivatives
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OTC Derivatives Survey

10 Please provide the current credit ratings for the following separate entities within your firm, where applicable, and the name of the rating agency. Please indicate the entity where the bulk of your OTC derivative transactions are booked.

QUESTION 10 SUMMARY

Rating Holding Company Principal bank/ broker/insurance entity Other affiliate/ subsidiary (e.g. capital market unit)	Standard and Poor's						Moody's						Below Investment Grade	Primary Booking Entity	Primary Credit Entity	No Response
	AAA	AA	A+	A	A-	P-1	P-2	Aaa	Aa1	Aa2	A1	A2	A3			
	2	2	2	4	1	0	1	0	1	0	4	1	2	1	0	3
	2	1	4	1	0	1	0	0	0	1	2	1	0	0	6	4
	3	0	1	0	1	0	0	1	0	0	0	0	0	0	4	2

[The above information is derived from information provided by each respondent. However, each response may be based on different criteria.]

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GAO's Survey of Major OTC Derivatives
Dealers

1991 Results

General Accounting Office
OTC Derivatives Survey

1b Please indicate the notional/contract amounts for the total of your derivative transactions along with the related amounts at risk of accounting loss according to Statement of Financial Accounting Standards (SFAS) 105. Please show how this amount may be affected by market factors or risk reduction techniques such as those listed below or others that you may employ.

As of Year End 1991	Type of Product			Commodity equity and other (c)	Total	FX<=1yr FX>2wks(d)
	Interest rate	Currency derivatives (a)	FX>1yr (b)			
Total derivative product notional/contract amount	3,031,318,500,000	1,034,245,000,000	447,441,500,000	220,978,000,000	4,782,959,000,000	832,472,000,000
Gross credit exposures amount at risk of accounting loss	28,049,000,000	32,219,800,000	7,439,700,000	2,210,000,000	104,199,500,000	21,196,800,000
Less:						
Netting agreements (e)					23,214,500,000	153,000,000
Collateral					4,583,100,000	3,000,000
Other (please specify)					497,000,000	0
Total net credit exposure					75,904,900,000	21,040,800,000
Potential future exposure (f)					4,918,000,000	0

Total Number of Respondents to Question 1b

13

[Above amounts represent the sum of individual responses.]

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1990 Results

General Accounting Office
OTC Derivatives Survey

1c Please indicate the notional/contract amounts for the total of your derivative transactions along with the related amounts at risk of accounting loss according to Statement of Financial Accounting Standards (SFAS) 105. Please show how this amount may be affected by market factors or risk reduction techniques such as those listed below or others that you may employ.

As of Year End 1990	Type of Product			Commodity equity, and other (c)	Total	FX<=1yr FX>2wks(d)
	Interest rate	Currency derivatives (a)	FX>1yr (b)			
Total derivative product notional/contract amount	2,566,827,000,000	915,391,000,000	456,554,000,000	160,047,000,000	4,323,890,000,000	783,673,000,000
Gross credit exposures amount at risk of accounting loss	20,456,000,000	23,535,000,000	5,121,000,000	2,551,000,000	61,226,000,000	16,614,000,000
Less:						
Netting agreements (e)					6,650,000,000	254,000,000
Collateral					526,000,000	1,000,000
Other (please specify)					0	0
Total net credit exposure					54,050,000,000	16,340,000,000
Potential future exposure (f)					4,860,800,000	0

Total Number of Respondents to Question 1c 12

[Amounts represent the sum of all respondents.]

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1991, 1990 Results

General Accounting Office
OTC Derivatives Survey

- 3.* What percentage of your firm's OTC derivative transactions are with other derivative products dealers and other institutions (location determined by nationality of head office)?

Type of counterparty	Percentage at year - end 1990		Percentage at year - end 1991	
	Notional/ contract amount	Net credit exposure	Notional/ contract amount	Net credit exposure
U.S. dealers	22.93%	13.38%	21.91%	13.14%
Non-U.S. dealers	29.36%	21.45%	24.85%	25.16%
Other	47.71%	65.22%	53.26%	61.70%
Total	100.0%	100.1%	100.0%	100.0%
Number of Respondents:		12		12

- * [Question 3 presents the weighted average of all respondents, weighted by individual contract amount or net credit exposure as applicable.]

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Dealers

1991, 1990 Results

General Accounting Office
OTC Derivatives Survey

- 4.* Please estimate the percentage of all your firm's OTC derivative transactions that are subject to the following credit risk reduction techniques.

Technique	Percentage of notional / contract amount	
	Year-End 1990	Year-End 1991
Enforceable netting agreements (a)	72.95%	73.88%
Collateral	1.71%	2.86%
Others (specify)	1.23%	1.79%

(a) FASB Interp. No. 39

Number of Respondents:	11	12
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- * [Question 4 presents the weighted average of all respondents, weighted by individual contract amount or net credit exposure as applicable.]

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1991 1990 Results

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- 6 What percentage of your firm's pre-tax revenues were attributable to your OTC derivatives business including increased trading revenues, fee income, asset/liability management, proprietary position taking, etc. (a best estimate may be appropriate)?

	1990	15.77%	1991	13.76%
Number of Respondents		7		8

[Question 6 is a simple average of individual responses]

- 7 Please provide the following information about all OTC derivative product credit losses for the years indicated

	Amount of credit exposure when terminated	Amount charged-off	Amount recovered
1990	41,725,000	40,188,000	0
1991	130,516,000	102,516,000	1,894,334

- 8 Please indicate the amount of the non-credit losses incurred on your OTC derivative product portfolio that resulted from unanticipated events, e.g., mispriced options, employee fraud, failure of internal controls, etc.

1990	0	1991	35,400,000
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[Results presented for questions 7 and 8 are a sum of all responses]

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1991, 1990 Results

General Accounting Office
OTC Derivatives Survey

9. For your portfolio at year-end, please indicate the approximate range and remaining average life of your interest rate and currency swaps. Also, please indicate the average remaining life weighted by the notional/contract amount of the transactions. Please specify days, months, or years.

9a. Remaining Tenor of Interest Rate Swaps:

At year-end	Range of maturities		Weighted average life	Number of Respondents
	Shortest	Longest		
1990	0	30	2.61	9
1991	0	30	2.92	10

9b. Remaining Tenor of Currency Swaps:

At year-end	Range of maturities		Weighted average life	Number of Respondents
	Shortest	Longest		
1990	0	17	3.05	10
1991	0	18	3.64	11

[Results presented for questions 9a. and 9b. are a weighted average of all responses using notional contract amount as the weight.]

Narrative Summaries

11. Please describe any major enhancements your firm has made to its risk-management systems for otc and exchange-traded derivative products within the last 3 years. Please indicate the approximate cost of these improvements.

Response (1)

"Over the past 3 years, the firm's systems development capabilities have increased substantially. In addition, the administration of these risk-management systems has been enhanced through the establishment of a centralized market risk-management function. Accomplishments include:

- Purchased and implemented a front-end position keeping system for foreign exchange.
- Implemented above system in overseas branches.
- Completed development of and implemented a front/middle office risk-management system for currency options, including exotic options.
- Developed proprietary pricing tools for interest rate derivatives.
- Upgraded front/middle offices capability for commodity derivatives.
- Installed Bloomberg analytics for fixed income trading.
- Developed and implemented real-time, global credit system which monitors current mark-to-market risk as well as potential credit risk over the life of each term transaction.
- Developed and began implementation of a global credit system which combines short term credit exposure for [foreign exchange] products and derivatives under a single position limit per counterparty and supports netting.
- Developed and implemented a current and historical database to house customer, trade, and market data for the full breadth of funding, trading and derivative products which will support risk analysis.

"Approximate costs [of these improvements were] \$1.5 million [for] 1990, \$3.5 million [for] 1991, [and] \$6.0 million [for] 1992."

Response (2)

"We consider our current system to be state of the art, measuring mark-to-market, credit risk, and all other aspects of trading risk on a 'real-time,' worldwide basis. The system is the result of continual improvements over the past years. In the past 3 years, [] banks combined their swaps and options books into one portfolio to look at the portfolio [as] a portfolio rather than [on] a deal-by-deal basis. In 1992, we combined the derivatives books of [].

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"We continually employ considerable resources to develop and implement enhancements to the [management information system] and risk-management systems. Over the past year, we expanded our capabilities in the international derivatives offices to utilize the [] derivatives database to assist the pricing and handling of OTC and exchange-traded derivatives. We are presently working on the development of a new [management information system] platform which will allow for the worldwide credit limit and profit/loss processing in a much easier fashion than is currently used.

"Cost of improvements over the past 3 years [was] approximately \$7.4 million."

Response (3)

"To improve risk management, a new swaps system was completed and installed in February of 1992. Following this were newly developed potential exposure and extended risk reports. There was also a manual data integrity check of all active contracts completed by December 1992."

Response (4)

"OTC derivatives support systems are under continual review and enhancement. Over the last 2 years, a system has been developed which will measure the current and future potential exposure of a designated portfolio of derivatives under a counterparty master agreement.

"A global restructuring of front and back office systems was initiated in 1992. The first phase is scheduled for implementation in 1994. The cost of this project is anticipated to be over \$10 million."

Response (5)

"Over the last 3 years, our firm has moved extensively toward option-based analytic systems run in a workstation environment for risk management, hedging, and pricing in the derivatives areas. In some areas of the firm, OTC positions are priced and monitored on a real-time basis. In other areas, where the price information is less continuous or where the products are more complex, risk management is based on day-to-day management. The goal over the next few years is to move to real-time monitoring in all derivatives areas.

"The risk management of derivatives in the firm is based on option models. These models have been developed within each of the risk areas by a research staff that is knowledgeable in the specific market where the

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model is to be applied. Thus, the development of the risk-management analytics is decentralized. However, the resulting analysis is aggregated for use in the global risk management division of the firm. The risk management is thus done at both a desk and division level (for a micro view) and at a firm level for an aggregate (macro view of risk).

"The output of these models provides not only theoretical marks, that give a measure of theoretical position value and [profit and loss], but also the usual measures of risk exposure—delta, gamma, kappa, and rho. Many areas are also moving toward using scenario analysis to evaluate the implications of large moves in the market and 'outlier' events on the [profit and loss] of the positions."

Response (6)

"This is a very broad question. [] had major systems projects oriented around derivatives [], and these have continued []. Their common goals have been to upgrade accounting and processing capacities, enhance front-end analytics and portfolio [management information system], multiply zero curve constructions, expand option pricing and simulation abilities, and move toward a common delivery platform from which more all embracing earnings-at-risk measurements can be made for both market risk and credit risk-management purposes. Many costs have overlapped with operations and financial reporting projects []. A very rough order-of-magnitude estimate of the total is \$30 million."

Response (7)

"Over the last 3 years, [] has made significant efforts toward worldwide implementation of both the infrastructure and applications to facilitate risk management of OTC and exchange-traded derivative products. These efforts have consisted of implementation of a Unix-based global pricing and risk-management application for our high-volume swap products [], the deployment of a parallel processing network for pricing and hedging the more computer-intensive mortgage products, [and] the integration of real-time feeds as well as the ongoing development of analytical models and risk-management capabilities for exotic derivatives. [] has expended an estimated \$15 million over the last 3 years for all hardware, software and personnel associated with these efforts."

Response (8)

"The primary risk-management groups within the derivatives business include the dollar swaps and nondollar groups, which have collectively spent approximately \$8 million on enhancements over the past 3 years.

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"A) Major enhancements for the dollar swaps group include:

(a) Development of a comprehensive derivatives administration system which performs all back-office activities for swaps, caps, floors, swaptions, and index amortizing swaps. The system maintains a unified SQL database, which is used for all risk-management functions.

(b) Enhanced risk analysis and modelling capabilities. New models include a multifactor Monte Carlo model for valuing and hedging IAR's and other path-dependent derivatives and a closed-form arbitrage-free one-factor model for valuing and hedging swaptions and caps. These models facilitate a comprehensive, daily analysis of portfolio risk.

The estimated cost of these enhancements is \$3 million to \$4 million; most of this expense is due to (a).

"B) The derivative products risk management group [] supports all the analytic needs of [] non-dollar swap group. The products covered are swaps, interest rate options, currency options, and most recently, commodity derivatives. Most development work is on exotics, primarily power, barrier, and path dependent derivatives. The group's main product is an integrated pricing and risk-management system that is used to price and manage the risk of these products. The models used include Black & Scholes for European options, binary and quadrinomial trees for exotic [foreign exchange] options, Monte Carlo simulation for certain path dependent options, 1-factor tree models for single-currency interest rate options, 2-factor models for dual-currency interest rate options, and 3-factor models for interest and [foreign exchange] rate dependent options. The analytics support group is comprised of seven professionals (up from two 3 years ago) and is expected to grow 50 percent next year. Cost for the past 3 years is approximately \$3 million. There is also a new 10 person group for developing back-office systems to support [] derivatives business. This cost approximately \$1.5 million a year."

Response (9)

"Over the past 3 years, [] has made a number of enhancements to existing, as well as investments in new, front-end and back-office risk-management systems for derivative products, including the following:

- A new credit exposure system is in development which allows derivative exposure to be aggregated by counterparty within or across product lines and allows for various other credit related analytics to be performed.

- A new interest rate swap system has been developed and recently enhanced with a credit risk-management module which calculates potential future credit exposure by counterparty.
- An oil and grain risk-management system has been developed which includes valuation, tracking, and analytical features.
- A new system has been developed for monitoring and valuing embedded transactions.
- A new proprietary trading and risk-analysis system has been developed which values and monitors the firm's exposure related to derivatives and other proprietary firm positions.
- A new system is in development to facilitate the aggregation, reporting, and analysis of information about derivatives and other products in accordance with the new Securities and Exchange Commission requirements.
- A new system has been developed to monitor and analyze net capital charges related to derivatives and other firm proprietary positions.
- A new OTC options portfolio system has been developed which performs position keeping, pricing, and risk analysis utilizing real-time analytics.
- A globally networked valuation and risk-management system has been developed for OTC and exchange-traded equity derivative products. The system provides:
 - trade entry directly into the books and records of the firm;
 - real-time position retrieval;
 - valuation and hedging models for a wide variety of listed and OTC derivatives on international indexes and individual stocks; [and]
 - risk-management software that computes the whole portfolio's net exposure to independent and correlated changes in equity market levels, interest rates, volatilities, etc.

"Managers can obtain detailed position reports that show the current theoretical value of the whole portfolio or any part of it. They can also obtain risk reports that show how this value changes over a specified range of market, volatility, and other parameter levels. Finally, they can estimate their credit exposure to individual counterparties.

"The cost of these improvements is approximately \$45 million."

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12. Please briefly describe the steps your firm takes to control the various types of legal risk involved in OTC derivative product use. For example, steps your firm takes to ensure that contracts used are legal; that the counterparties are authorized to enter into contracts; and that material contract provisions, such as netting agreements, are enforceable and not subject to misinterpretation.

Response (1)

"Negotiation of legal agreements is conducted by staff under the direction of in-house counsel in the major geographic regions. As deemed necessary, legal opinions will be obtained from counterparties or our own counsel to support the enforceability of the agreements. Enforceability of netting is determined on the basis of opinions of counsel and based on such opinions the corporation's credit policy committee will determine whether netting is to be considered enforceable within a specific jurisdiction for specific types of transactions. Overall policies governing terms of the master agreement are set by the corporation's credit policy committee. Exceptions to policy may require the approval of the office of corporate finance or credit policy committee."

Response (2)

"It is our policy to require swap counterparties to execute ISDA master swap agreements (there are certain exceptions for short-term transactions conducted under British Bankers Association terms; OTC currency options, which are generally documented under the International Currency Option Market Master Agreement; and for isolated transactions that may be otherwise documented). It is also our policy to obtain enforceability opinions from counsel to counterparties [that] are not swap dealers. These opinions address issues [about the] [] organization of the counterparty, the authority of the person executing the agreement on behalf of the counterparty, and the power of the counterparty to enter into and perform the agreement, as well as the general enforceability of the agreement. We also require counterparties to provide evidence of the corporate authorization of execution and performance of the agreement (e.g., a certified copy of the board resolution) and of the authority of the person signing the agreement on behalf of the counterparty (e.g., a certificate of incumbency).

"In addition to receiving enforceability opinions from counsel to counterparties, we review opinions with respect to netting and other issues bearing on the enforceability of swap agreements.

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"We obtain opinions from counsel in various countries as well as from ISDA and other sources. We are also active participants in various committees, with the counsel to leading U.S. derivatives dealers, to discuss issues relating to derivatives transactions, such as netting, enforceability, and contract development."

Response (3)

"From time to time, standard documents are reviewed by both in-house and outside counsel. In-house attorneys involved in the majority of all negotiations of agreements require counterparties to provide evidence of authority to enter into contracts (e.g., resolutions, statutes). With respect to material contract provisions, such provisions are individually negotiated, and attorneys are kept up-to-date on the current state of law via outside counsel and professional reading. In addition, attorneys and document staff regularly attend professional seminars. All contracts [are] reviewed by attorneys prior to execution. In the ordinary course of business, legal opinions are requested and obtained from counterparties as to authorization and enforceability."

Response (4)

"We attempt to employ standard ISDA master agreements to cover as many counterparties and as many products as possible, because of the legal 'due diligence' that has been performed by the ISDA working groups in developing these agreements. We have also relied on the legal opinions obtained by ISDA with respect to the effectiveness of the ISDA agreement in the principal legal jurisdictions around the world, including with respect to the enforceability of netting agreements. We have also obtained supplementary or additional legal opinions on the ISDA agreements when we believe it is warranted. All non-ISDA forms of agreements are reviewed by our counsel group.

"Legal due diligence as to counterparty authority and authorization is generally accomplished pursuant to the requirements of our standard forms of ISDA agreements, which require that the counterparty furnish evidence of authority and authorization to enter into the contracts. This evidence, which may consist of 'signature books' of financial institutions, or incumbency certificates, or other evidence of authority, becomes part of the counterparty file. For nonstandard transactions or counterparties (such as entities formed pursuant to specific statute rather than generally-empowered corporations, or political subdivisions and government entities), we may require delivery of an opinion of counsel for the counterparty.

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"We also conduct our own legal investigations on questions of legal capacity for particular classes of some counterparties by seeking advice from our own counsel."

Response (5)

"Our firm utilizes standard credit and legal practices prudent in the normal course of business. These would include but are not limited to the following: (i) requesting corporate resolutions when appropriate, (ii) seeking legal opinions from outside counsel, (iii) evaluating the ability to perform and enforce all contracts, (iv) evaluating on a country-by-country basis the effects of netting, and (v) evaluating relevant rules and statutes. Additionally, the credit department reviews and approves all long-dated [foreign exchange] contracts and all swap transactions."

Response (6)

"Our documentation policies require that a master agreement be in place before any transaction is committed, that the standard ISDA contract (vetted worldwide) be used, that we receive a corporate resolution regarding derivatives activity, and that counterparties meet the standards of 'eligible swap participants' per CFTC regulation. We ensure our confirmation of each transaction goes out within 24 hours and is traced relentlessly until it is matched by the counterparty. In the United States, netting is recognized in Financial Institutions Reform, Recovery and Enforcement Act of 1989 and the corporate bankruptcy code. Elsewhere, in the absence of explicit recognition or precedent, we rely on reasoned opinion of local counsel, but we also measure and manage credit exposures on a gross (unnetted) as well as net basis."

Response (7)

"We execute an ISDA master agreement with every counterparty that enters into [a] derivative trades with us. This master agreement typically will require the delivery of a legal opinion. In the opinion, the counterparty opines that they have the legal authority to do swaps and that the swap is an enforceable obligation. In lieu of a legal opinion, we ask for appropriate evidence of authority. We have conducted a survey of several of our largest jurisdictions and have confirmed what should be the appropriate evidence depending the type of institution. Only if we receive this appropriate evidence will we waive the legal opinion requirement. Evidence is often board resolutions (authorizing the corporation to engage in derivative trades) and an incumbency certificate from the corporate secretary. Prior to doing trades with unusual institutions or corporations incorporated in unfamiliar jurisdictions, we typically will verify with local

counsel (and/or have extensive discussions with counsel for the corporation) concerning suitability and enforceability. This is done on a case-by-case basis."

Response (8)

"Our law department employs in-house lawyers who specialize in derivatives. They represent both the credit and product areas of our firm and oversee all legal aspects of our derivatives business. This includes regulatory compliance matters relating to securities, commodities, and banking laws in the different jurisdictions in which we operate. They also address issues relating to creditors' rights, bankruptcy, contract enforceability (including netting agreements) and counterparty authority. Our firm's decision not to deal with English local authorities was based in part on legal advice rendered by these professionals, and our firm suffered no losses from the []. From time to time, these lawyers may consult outside counsel, and they participate in industry trade associations and central bank committees to keep abreast of legal developments."

Response (9)

"[] has established standard documentation procedures and policies for managing various legal risks that arise in connection with the execution and documentation of OTC derivative transactions. The firm has two units dedicated entirely to documenting derivative transactions at the confirmation and master agreement stages, respectively. Standard practices are in place to minimize the risk that agreements with counterparties might be unenforceable, including obtaining representation from counterparties with respect to the enforceability of agreements with such counterparties and seeking legal opinions from counsel with respect to the agreements. Additional documentation requirements have been put into place for counterparties, such as municipalities and mutual funds, whose authority to engage in derivative transactions may be limited. Where appropriate, the firm retains outside counsel expert in the area of law under which a prospective counterparty is operating to advise [] in connection with the authority of the counterparty to engage in derivative transactions. In instances in which serious concerns can be raised about the effectiveness of netting, it is the firm's policy to consider the prospective credit risk of the counterparty's activities on both a gross and a net basis."

Response (10)

"[] and its affiliates dealing in OTC derivatives take the following steps to control various types of legal risk involved in OTC derivative product use."

First, the legal department cooperates with the capital markets, trading and other product development areas of the firm to determine whether the product or transaction is subject to regulation and to establish procedures to ensure compliance with these regulations. For example, OTC options on securities or securities indexes are subject to federal and state securities laws and to the rules of various self-regulatory organizations, such as the National Association of Securities Dealers and The New York Stock Exchange, as well as federal rules relating to the extensions of credit (Regulation T). Analysis is also performed to assure that a contract or transaction is not subject to the Commodity Exchange Act (the act) or if it is, that the transaction is subject to one or more of the exemptions contained in the act or CFTC regulations thereunder. Gambling or 'bucket shop' laws are also reviewed.

"Second, the firm and its various divisions exercise due diligence to establish that counterparties and customers have the legal capacity and authority to engage in each category of derivative transactions which they may contemplate doing with the firm. This due diligence includes obtaining copies of the corporate documents or partnership agreements, certified copies of board resolutions, prospectuses (in the case of mutual funds), and where deemed appropriate, legal opinions. Extra steps, including the review of applicable statutory authority, in consultation with local counsel, are undertaken with respect to counterparties which are governmental or quasigovernmental entities.

"Third, in connection with transactions with counterparties domiciled in jurisdictions not governed by the laws of the United States or any state, we routinely consult with local counsel with respect to the ability of [] or its affiliates to engage in the transaction in that jurisdiction and with respect to the enforceability of the contract or agreement used for the particular transaction.

"Fourth, [] routinely uses master agreements for OTC derivatives transactions including options and swaps. Risk-reduction techniques, including cross-default provisions and bilateral close-out netting, are routinely contained in this documentation. We also routinely require counterparties to sign and return confirmations of transactions to ensure the accuracy of the terms of particular trades.

"Fifth, the credit department of the firm is consulted concerning any counterparty engaging in derivatives transactions with []. In cases where margin is not required by law, credit enhancement or collateralization of

exposures, where appropriate, are covered by the appropriate agreements, which are reviewed by counsel to ensure, to the extent possible, perfection of security interest in collateral."

Response (11)

"All schedules to master contracts and all tailored confirmations are reviewed by the legal department for sufficiency and enforceability. Due diligence is performed with respect to the due authority of a counterparty to [a] contract for the trade including, but not limited to, a review of charter authority, corporate resolutions relative to corporate or entity authority, corporate resolutions relative to the authority and incumbency of signatories, and relevant statutes or ordinances regarding authority. Also, the product is reviewed to determine if it is eligible for trading off an exchange and with due regard to any dealer registration implications."

13. Please provide any additional comments you may wish with regard to OTC derivative product activities. Attach additional pages if you care to.

Response (1)

"In order for the OTC derivative product market to continue to grow and flourish, market participants must be assured that the legal and regulatory regimes in which they operate effectively reduce counterparty credit exposure and legal risks to the greatest extent possible. Market participants have, through industry groups and trade organizations, brought about legislative and regulatory reforms in various jurisdictions. The grant of exemptive authority to CFTC and the exercise of that authority to create exemptions from the exclusivity provisions of the Commodity Exchange Act for swaps and hybrid instruments is an example of successful collaboration by market participants, legislators and regulators. But uncertainty remains on many issues both in the United States and abroad. The enforceability of close-out netting arrangements outside the United States, the status of multiproduct master agreements, and the legal capacity issues for regulated and public/municipal entities are but a few of the issues which require clarification.

"Despite the progress of market participants to date, only through the active efforts of legislative and regulatory authorities can legal certainty on many of these issues be achieved. We would welcome increased involvement by legislators and regulatory authorities in the United States and abroad to promote reforms which would clarify these issues in the context of OTC derivative products. Such an effort, however, must proceed

Appendix III
GAO's Survey of Major OTC Derivatives
Dealers

in conjunction with market participants so that the reforms are workable and are reflective of the marketplace for the various types of transactions. Given the strong international and cross-border nature of the OTC derivative products market, we would also hope that such efforts would be undertaken in conjunction with legislators and regulatory authorities abroad. Moreover, the recently published Group of Thirty global derivatives study specifically recommended an aggressive approach [by] legislators and regulators worldwide to eliminate such legal risks."

Response (2)

"Although given the relatively short notice we were unable to provide [] data on our derivative portfolio, we are confident that the trends are favorable. The current quality of the portfolio has steadily improved, and our ability to monitor and manage all forms of risk is increasing. We are confident that the risks generated by derivatives will remain low by traditional banking standards."

Response (3)

"We believe the bulk of derivative trades are commercial transactions, not securities or futures, and consequently are unregulated. If the product is a security, due regard is given to security law regulation, dealer registration and net capital requirements, if applicable.

"We believe the credit analysis performed by a dealer in regard to a counterparty and any reserving for credit loss exceeds that which might reasonably be imposed by any regulator. In fact, any regulatory threshold of creditworthiness might prove harmful to the markets if it were below what a responsible dealer might set for its own protection. Such lower threshold might permit a dealer that otherwise would not meet a market-based creditworthiness standard to claim full adherence to the (lower) regulatory creditworthiness threshold, which in turn might induce a less sophisticated counterparty or end-user to trade with that dealer."

Methodology Used to Develop Global Estimates for Foreign Exchange Forwards and OTC Options

To estimate the notional/contract amounts for foreign exchange forwards and OTC options held worldwide, we reviewed nine databases containing information about derivatives activity. Four of the databases (1 through 4) are industry-produced compilations of derivatives data obtained from the financial reports of individual companies. Five others (5 through 9) are Federal Reserve databases produced from information that U.S. commercial banks provide directly to their regulators. We also created our own database (number 10) from information about derivatives activity on individual companies and institutions obtained from various industry sources and contained in financial reports. Information from these databases is shown in table IV.1.

Appendix IV
Methodology Used to Develop Global
Estimates for Foreign Exchange Forwards
and OTC Options

Table IV.1: Summary of the Notional/Contract Amounts of the 10 Databases That Were the Basis for GAO's Methodology

Dollars in billions

Source and description of databases	Total derivatives	Interest rate derivatives	Foreign exchange derivatives	Equity and commodity derivatives	Nonallocable derivatives
(1) Swaps Monitor 50 largest global dealers as of year-end 1992	\$25,985	\$10,844	\$9,757	\$874	\$4,510
(2) Swaps Monitor 1,139 firms as of year-end 1992	15,451	5,115	5,675	a	3,661
(3) Swaps Monitor 999 firms as of year-end 1991	11,770	4,529	4,765	a	2,476
(4) Swaps Monitor 808 firms as of year-end 1990	6,857	3,141	3,716	a	0
(5) Federal Reserve call report (RC-L) data for U.S. banks for first quarter of 1992	8,097	4,182	3,737	178	0
(6) Federal Reserve RC-L data for U.S. banks as of year-end 1991	7,446	3,836	3,472	138	0
(7) Federal Reserve RC-L data for U.S. banks as of year-end 1990 ^b	6,784	3,310	3,392	82	0
(8) Federal Reserve consolidated holding company report (Y-9) data for U.S. banks as of year-end 1992	8,789	4,892	3,783	114	0
(9) Federal Reserve Y-9 data for U.S. banks as of year-end 1991	7,330	3,853	3,369	108	0
(10) GAO global database of 875 firms as of year-end 1991 ^b	24,708	10,752	9,537	678	3,741

Note: The 10 databases overlap with respect to the data they contain and include double counting of some contracts. Specifically, the five Federal Reserve databases (5, 6, 7, 8, and 9) contain data only for U.S. banks and U.S. branches of foreign banks. The Federal Reserve call report (RC-L) databases (5, 6, and 7) contain derivatives data for the main banks but not the bank holding companies or consolidated entities. The Federal Reserve consolidated holding company report (Y-9) databases (8 and 9) contain derivatives data on U.S. bank holding companies and consolidated entities. The other five databases (1, 2, 3, 4, and 10) contain data on all types of firms, including U.S. banks. Databases 2, 3, and 4 contain data on U.S. financial and nonfinancial firms and U.S. branches of foreign banks. Database 1 captures the 50 largest U.S. and foreign derivatives dealers as of year-end 1992 on the basis of available information. Database 10 captures the major dealers as of year-end 1991 but also captures other U.S. and foreign firms, financial and nonfinancial firms, and dealers and end-users.

^aNo data included on equity and commodity derivatives

^bDatabase 10 contains no information on institutions that may be using derivatives to hedge their large holdings in the stock and bond markets. These institutions include college endowments, foundations, mutual funds, and union funds. Notional/contract data for these institutions were impractical or impossible to obtain.

Sources: Swaps Monitor Publications, Inc., various annual reports, Derivatives Strategy & Tactics, Inc., and the Federal Reserve.

Appendix IV
Methodology Used to Develop Global
Estimates for Foreign Exchange Forwards
and OTC Options

We separated the notional/contract amounts of each of the 10 databases into the following five categories: (1) total derivatives, (2) total interest rate derivatives, (3) total foreign exchange derivatives, (4) total equity and commodity derivatives, and (5) total nonallocable derivatives. Nonallocable derivatives are data that we could not separate into the other categories.

We calculated the relative size of foreign exchange derivatives in the 10 databases in 2 ways. First, we calculated foreign exchange derivatives as a percentage of total derivatives (see table IV.2), and second, foreign exchange derivatives as a percentage of interest rate derivatives (see table IV.3). We selected the method that yielded the most conservative (smallest) estimates of foreign exchange derivatives held globally as of the end of each fiscal year (see table IV.4). From these estimates we subtracted industry estimates for currency swaps, foreign exchange futures, and exchange-traded currency options held globally. The net amounts are our estimates for foreign exchange forwards and OTC option contracts held worldwide as of each year-end from 1989 through 1992 (see table IV.5). We added our estimates for foreign exchange forward and OTC option contracts held worldwide to the industry estimates for other derivatives to arrive at new estimates for total derivatives held worldwide as of each year-end from 1989 through 1992 (see table IV.6).

Because the 10 databases are not statistical samples of the global derivatives markets, we could not compute valid statistical estimates of foreign exchange forwards and OTC option contracts held worldwide.¹ The 10 databases were judgmentally selected samples because the types of firms and institutions included were based on specific criteria (see the notes to table IV.1 for details). The 10 databases overlap with respect to the data that they contain (see note "a" to table IV.1 for details). Each sample was subject to limitations on available data and time.

Table IV.2 shows foreign exchange derivatives as a percentage of total derivatives for the 10 databases. It shows the percentages selected under the conservative approach and used in methodology 1.

¹We could not create a statistical sample of derivatives held worldwide for two reasons. First, we could not obtain or create a listing of the population (sampling frame). The population would consist of all of the firms and institutions in the world. Second, even if a sampling frame were created, we could not successfully pull a statistical sample from it because derivatives notional/contract data would not be available for all of the entities in the sample.

Appendix IV
Methodology Used to Develop Global
Estimates for Foreign Exchange Forwards
and OTC Options

Table IV.2: Foreign Exchange Derivatives as a Percentage of Total Derivatives (Methodology 1)

Database	Year	Total derivatives	Interest rate derivatives	Foreign exchange derivatives	Equity and commodity derivatives	Nonallocable derivatives
1	1992	100%	41.7%	37.5%	3.4%	17.4%
2	1992	100	39.6	36.7 ^a	^d	23.7
3	1991	100	38.5	40.5	^d	21.0
4	1990	100	45.8	54.2	^e	^a
5	1992	100	51.6	46.2	2.2	^e
6	1991	100	51.5	46.6	1.9	^e
7	1990	100	48.8	50.0 ^b	1.2	^e
8	1992	100	55.7	43.0	1.3	^e
9	1991	100	52.5	46.0	1.5	^e
10	1991	100	43.5	38.6 ^c	2.7	15.1

Note: We calculated and selected the percentages that were used on the basis of data from table IV.1.

^aFor the four databases with data as of the end of fiscal year 1992, foreign exchange derivatives as a percentage of total derivatives were 36.7, 37.5, 43.1, and 46.2 percent. We used the conservative 36.7 percent.

^bFor the two databases with data as of year-end 1990, foreign exchange derivatives as a percentage of total derivatives were 50.0 and 54.2 percent. We used the conservative 38.6 percent from 1991 for 1990 data. We also used 38.6 percent for 1989.

^cFor the four databases with data as of year-end 1991, foreign exchange derivatives as a percentage of total derivatives were 38.6, 40.5, 46.0, and 46.6 percent. We used the conservative 38.6 percent.

^dData were not available.

^eData were not applicable.

Source: GAO analysis.

Table IV.3 shows foreign exchange derivatives as a percentage of interest rate derivatives for the 10 databases. It shows the percentages selected under the conservative approach and used in methodology 2.

Appendix IV
Methodology Used to Develop Global
Estimates for Foreign Exchange Forwards
and OTC Options

Table IV.3: Foreign Exchange Derivatives as a Percentage of Interest Rate Derivatives (Methodology 2)

Database	Year	Interest rate derivatives	Foreign exchange derivatives	Equity and commodity derivatives	Nonallocable
1	1992	100%	90.0%	8.1%	41.6%
2	1992	100	92.8	^a	59.9
3	1991	100	105.2	^a	54.7
4	1990	100	118.3	^a	*
5	1992	100	89.4	4.3	*
6	1991	100	90.5	3.6	*
7	1990	100	102.5 ^a	2.5	*
8	1992	100	77.3 ^b	2.3	*
9	1991	100	87.4 ^c	2.8	*
10	1991	100	88.7	6.3	34.8

Note: We calculated and selected the percentages that were used on the basis of data from table IV.1

^aFor the two databases with data as of year-end 1990, foreign exchange derivatives as a percentage of interest rate derivatives were 102.5 and 118.3 percent. We used the conservative 102.5 percent for the year-end 1990 and 1989 data.

^bFor the four databases with data as of year-end 1992, foreign exchange derivatives as a percent of interest rate derivatives were 77.3, 89.4, 90.0, and 92.8 percent. We used the conservative 77.3 percent.

^cFor the four databases with data as of year-end 1991, foreign exchange derivatives as a percent of interest rate derivatives were 87.4, 88.7, 90.5, and 105.2 percent. We used the conservative 87.4 percent.

^dData were not available.

^eData were not applicable.

Source: GAO analysis.

Table IV.4 shows the results of our two methodologies for estimating foreign exchange derivatives. In methodology 1, we estimated foreign exchange derivatives as a percentage of total derivatives. In methodology 2, we estimated foreign exchange derivatives as a percentage of interest rate derivatives. We compared the two results and used the most conservative, that is, the percentages that yielded the smallest estimates for foreign exchange derivatives from 1989 through 1992.

Appendix IV
Methodology Used to Develop Global
Estimates for Foreign Exchange Forwards
and OTC Options

Table IV.4: Comparison of Methodologies 1 and 2 and the Notional/Contract Amounts of Foreign Exchange Derivatives

Dollars in billions

Year	Percentage used ^a	Percentage used ^b	Foreign exchange derivatives ^a	Foreign exchange derivatives ^b	Most conservative result used ^c
1992	36.7%	77.3%	\$6,475	\$8,443	\$6,475 ^d
1991	38.6	87.4	5,415	7,345	5,415
1990	38.6	102.5	3,927	6,239	3,927
1989	38.6	102.5	2,779	4,419	2,779

^aResult of using methodology 1. Data were from table IV.2.

^bResult of using methodology 2. Data were from table IV.3.

^cWe computed the amounts by applying the percentages from table IV.4 to the appropriate data in table IV.6. For example, for data as of year-end 1992, we estimated that foreign exchange derivatives were the lesser of 36.7 percent of total derivatives, or 77.3 percent of interest rate derivatives. The lesser amount is \$6,475, which is 36.7 percent of total derivatives held of \$17,643 (see table IV.6).

Source: GAO analysis.

Table IV.5 shows our estimates of global foreign exchange derivatives from which we subtracted the industry estimates for foreign exchange futures, exchange-traded currency options, and currency swaps in order to arrive at our estimates for global foreign exchange forward and OTC option contracts.

Table IV.5: GAO Estimates of the Notional/Contract Amounts of Foreign Exchange Forwards and OTC Options

Dollars in billions

Year	GAO estimate for total foreign exchange derivatives ^a	Less currency swaps ^b	Less currency futures ^b	Less exchange-traded currency options ^b	Equals foreign exchange forwards and OTC options ^a
1992	\$6,475	\$860	\$25	\$80	\$5,510
1991	5,415	807	18	59	4,531
1990	3,927	578	16	56	3,277
1989	2,779	449	16	50	2,264

^aData from table IV.4.

^bData from table IV.6.

Source: GAO analysis.

Appendix IV
Methodology Used to Develop Global
Estimates for Foreign Exchange Forwards
and OTC Options

Table IV.6: Notional/Contract Amounts for Derivatives Worldwide by Individual Product Types as of the End of Fiscal Years 1989 Through 1992

Dollars in billions

Type of derivative	1989	1990	1991	1992	Percentage of total 1992	Percentage increase from 1989 to 1992
Forwards						
Forward rate agreements ^a	\$770	\$1,160	\$1,530	\$2,005		
Foreign exchange forwards ^b	2,264	3,277	4,531	5,510		
Total forwards	\$3,034	\$4,437	\$6,061	\$7,515	42%	148%
Futures						
Interest rate futures	1,201	1,454	2,159	3,048		
Currency futures	16	16	18	25		
Equity index futures	42	70	77	81		
Total futures	\$1,259	\$1,540	\$2,254	\$3,154	18%	151%
Options						
Exchange-traded interest rate options	387	600	1,073	1,385		
OTC interest rate options	450	561	577	634		
Exchange-traded currency options	50	56	59	80		
Exchange-traded equity index options	66	88	132	164		
Total options	\$953	\$1,305	\$1,841	\$2,263	13%	137%
Swaps						
Interest rate swaps	1,503	2,312	3,065	3,851		
Currency swaps	449	578	807	860		
Total swaps	\$1,952	\$2,890	\$3,872	\$4,711	27%	141%
Total derivatives^c	\$7,198	\$10,172	\$14,028	\$17,643	100%	145%
Total derivatives^d	\$4,934	\$6,895	\$9,497	\$12,133		

^aGAO estimated forward rate agreements as of the end of fiscal year 1992 on the basis of methodology the New York Federal Reserve used in computing estimates for year-ends 1989, 1990, and 1991

^bGAO estimates for foreign exchange forward contracts are from table IV.5. These also include an unknown amount of OTC foreign exchange options

^cDoes not include complete data on physical commodity derivatives and equity options on the common stock of individual companies. Table IV.2 shows that seven of the databases contain equity and commodity derivatives that ranged from 1.1 to 3.4 percent of total derivatives notional/contract amounts

^dBefore including GAO estimates for foreign exchange forwards and OTC options

Sources: Bank for International Settlements, GAO, ISDA, Federal Reserve Bank of New York.

Appendix V

15 Major U.S. OTC Derivatives Dealers and Their Notional/Contract Derivatives Amounts

Dollars in millions

Banks

Chemical Banking Corporation	\$1,620,819
Citicorp	1,521,400
J.P. Morgan & Co., Inc.	1,251,700
Bankers Trust New York Corporation	1,165,872
The Chase Manhattan Corporation	886,300
BankAmerica Corporation	787,891
First Chicago Corporation	391,400

Securities firms

The Goldman Sachs Group, L.P.	752,041
Salomon, Inc.	729,000
Merrill Lynch & Co., Inc.	724,000
Morgan Stanley Group, Inc.	424,937
Shearson Lehman Brothers, Inc.*	337,007

Insurance companies

American International Group, Inc.	198,200
The Prudential Insurance Company of America	121,515
General Re Corporation	82,729

Total	\$10,994,811
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*The 1992 annual report from which we derived this information was issued by Shearson Lehman. The firm no longer exists under this name.

Source: Annual reports for 1992.

Major Contributors to This Report

General Government Division, Washington, D.C.

Helen H. Hsing, Associate Director
 Thomas J. McCool, Associate Director
 Michael A. Burnett, Assistant Director
 Cecile O. Trop, Assistant Director
 John H. Treanor, Banking Management Expert
 Cody J. Goebel, Senior Evaluator
 Gerald C. Schober, Senior Evaluator
 Frederick T. Evans, Senior Economist
 Tamara E. Cross, Evaluator
 Steven G. Lozano, Evaluator
 Carl M. Ramirez, Social Science Analyst
 Kiki Theodoropoulos, Evaluator (Communications Analyst)
 Desiree W. Whipple, Reports Analyst

Accounting and Information Management Division, Washington, D.C.

Donald H. Chapin, Chief Accountant
 Robert W. Gramling, Director
 Linda M. Calbom, Senior Assistant Director
 Frank Synowiec, Assistant Director

Chicago Regional Office

David J. Diersen, Senior Evaluator
 Patrick C. Dolan, Senior Evaluator (Retired)
 Susan R. Bradshaw, Evaluator
 Melvin Thomas, Evaluator

European Office

Paul M. Aussendorf, Senior Evaluator
 Shirley A. Brothwell, Senior Evaluator
 Stephen M. Lord, Senior Evaluator

Far East Office

Priscilla M. Harrison, Senior Evaluator
 Susan E. Cohen, Evaluator

New York Regional Office

Richard G. Schlitt, Senior Evaluator
 Raymond L. Gast, Evaluator

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Major Contributors to This Report

Office of General
Counsel, Washington,
D.C.

Lorna MacLeod, Attorney

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Statement by

Henry Kaufman

President, Henry Kaufman & Company, Inc.

before the

Committee on Banking, Finance and Urban Affairs

United States House of Representatives

Washington, D.C.

June 23, 1994

Statement by Henry Kaufman
President, Henry Kaufman & Company, Inc.
submitted to the
Committee on Banking, Finance and Urban Affairs
United States House of Representatives
Washington, D.C.
June 23, 1994

I am pleased to accept your invitation to present my views on the general topic of financial derivatives and to comment on some of the specific provisions of H.R. 4503, the "Derivatives Safety and Soundness Supervision Act of 1994." I approach the subject essentially as a practitioner, since I was for many years part of senior management of one of the leading firms which make markets in financial derivatives -- Salomon Brothers -- and since the money management firm I head, Henry Kaufman & Company, Inc., has had occasion to make use of some financial instruments that fall under the overall heading of financial derivatives.

My fundamental starting point is that financial derivatives are just one part -- though surely an important, complex, and rapidly growing part -- of the far-reaching structural changes in our financial markets that have been developing over the past three decades. As such, they should not be viewed in isolation. This new financial world is characterized by widespread securitization of credit; by expanding internationalization of borrowing, lending, and investing; by unprecedented volatility in the prices of financial assets; by the decline in the relative position of traditional institutional lenders and investors who tended to buy and hold; by the emergence of those that I call "hi-octane" portfolio managers with very near-term investment horizons, who are willing to use greater leverage to achieve higher returns; by the impressive expansion of mutual funds, many of which employ derivatives or acquire securities embodying derivatives; and by a persistent blurring of the lines between different types of financial institutions -- and even a blurring of the lines between the real and the financial aspects of business life.

Financial derivatives -- forwards, futures, swaps, options, and securities embodying options -- are an outgrowth of this larger process, which tends to nurture the various financial risks that investors, companies, and financial institutions seek either to profit from or to hedge against. But at the same time, derivatives are a catalyst and increasingly an instigator of further evolution of the financial markets. They must constantly be assessed in this broader context.

From the perspective of public policy, I have long felt that official regulators of financial institutions have been slow in coming to grips with the implications of this new financial world as a whole for the safety and soundness of the financial system. But that is mainly because the present

system of official supervision and regulation of financial institutions and markets is out of date and is not in tune with the institutional and structural changes that have taken place in the marketplace. It is not primarily because of the development of financial derivatives, which involve certain risks, but which also provide considerable benefits to users.

To be sure, the specific risks associated with spectacular growth in many types of financial derivatives -- risks to end-users, to dealers, and to the financial system at large -- do need urgent attention. Timely preventative action can mitigate these risks or at least contain their possible adverse consequences, and I will make a few suggestions along these lines later in my testimony. But my strongly held view is that changes in regulatory policies covering financial derivatives ought to be considered only in the context of an across the board review and reform of the structure of official supervision and regulation of the financial markets and institutions in all respects. I do not favor any new regulatory agency devoted to financial derivatives per se. Similarly, I do not support legislated mandates that would apply to only a sub-set of market participants -- for instance, to US commercial banks -- and would therefore amount to a step backward, because other market participants -- be they securities firms, insurance companies, finance companies, or non-US commercial banks, securities firms or other financial institutions -- would not be covered. It is because many of the provisions of the bill under consideration by this Committee do not meet this test that I have problems with H.R. 4503. Indeed, I have long recommended adoption of the substance of several of the provisions in the bill, but only under the condition that they apply equally to all domestic and foreign financial institutions engaged in derivatives.

With these opening comments in mind, let me begin by trying to clarify a number of underlying concepts and to make a few distinctions that I feel are useful before going on to consider the important current issues that animate discussion of public policy consequences.

Basic Concepts and Useful Distinctions

Any serious examination of financial derivatives has to distinguish between the different types of derivatives and contrast their relative riskiness in what might be considered normal times with their riskiness under conditions of stress. Risks can expand in unexpected ways when markets become disturbed and liquidity shrinks. Because of that fact, it is important to distinguish between the risks to end-users, such as business corporations, financial institutions, and investors, and the risks to market-makers, those major banks, securities firms, insurance companies, and finance companies which are prepared to act continuously as dealers.

I am also of the view that the term "financial derivatives" is overly broad and should be used sparingly. That is because the term covers a very wide range of financial instruments and techniques with vastly different historical backgrounds, purposes, and risks. Employing the term in an overly broad way has the effect of diverting attention from the genuine danger points that deserve intensive review and gets in the way of constructive thinking about risk-reducing alternatives.

To illustrate, several studies count forward foreign exchange contracts as a type of financial derivative, although currency forwards have been in use for generations as either a hedging or a speculative vehicle. Granted, there are a few fresh wrinkles. Hardly anybody wrote five or ten year forward contracts two decades ago, while today you can readily find a bank or securities firm that will take them on. Granted also that turnover in the forward markets has mushroomed since the advent of flexible exchange rates, spurred on by the heightened volatility of currency values, and aided and abetted by cheap, fast telecommunications and real-time quotes displayed on the screens we all watch. But essentially the business in the wholesale foreign exchange market is done much the same way as it was years ago, with essentially the same -- admittedly large -- risks that have always been inherent in currency trading. Modern computers allow dealers and their customers to keep better track of the exposed positions they are taking, but they don't provide unflinching predictions of whether to go long or to go short!

What really is new and potentially troublesome are those financial derivatives either that have changed the behavior of underlying financial markets or that have introduced novel and not fully understood risks into the system. Into this category I would start by putting the various futures markets on equity indexes and on government bonds. Financial futures introduce greater symmetry in position-taking. They make it just as easy to go short stocks or bonds as to go long, as currency forwards have always done in the foreign exchange markets. Bond and equity futures make it cheaper to switch positions and thus divert transactions that would ordinarily have been done in the associated cash markets. In the process, they introduce phenomenal leverage into the system and consequently raise the stakes as to measurement, monitoring, and control of credit risks. Even those market participants who are most lucid in defending derivatives will admit that control of credit risks is fraught with difficulty. Those difficulties are compounded by a lack of dependable legal precedents in many jurisdictions to assure timely performance of derivatives contracts in cases of financial distress, receivership, or bankruptcy.

Also of considerable importance with respect to the functioning of underlying credit markets are interest rate swaps. In their simplest and most easily described and understood forms, interest rate swaps fall under the general class of arbitrage. Two companies of differing credit quality and market acceptance find that they can borrow more cheaply by arbitraging the difference in their relative credit quality. Generally, the higher rated company can borrow at a relatively narrower spread to US

Treasuries in the long end of the maturity spectrum, while the lower rated company can borrow at a relatively narrower yield spread (although, of course, wider in absolute terms) at the short end. The interest rate swap makes both better off, enough better off to pay the fees of the banker who structures the deal.

It turns out that this arrangement, straightforward in concept but virtually unknown until a dozen years ago, has blossomed to the astonishing extent that somewhere between \$4 and 5 trillion of interest rate swaps are now outstanding. The basic business has been learned by nearly all significant financial institutions and companies in every developed country and quite a few emerging markets, as well. Not surprisingly, profit margins in arranging simple interest rate swaps have been squeezed accordingly. The pricing is so tight today that it has become unlikely that the originating banks are fully compensated for the residual credit risks involved even in the simpler types of swaps.

Naturally, the market has not stood still in the face of this change in competitive conditions. To be truly profitable, dealers now face the temptation of constructing longer maturity swaps and forward rate agreements with less creditworthy counterparties, both of which expose them and eventually the market at large to more risk.

Yet, the main adjustment market participants have made to changed competitive conditions in the marketplace -- and to all intents and purposes, the principal legitimate source of concern about financial derivatives -- is to become more involved in originating, packaging, and marketing a burgeoning array of financial options. The dimensions of options-related activities are dazzling and continually expanding. They range from puts and calls on shares of individual companies, equity indexes, government bonds, bond and stock futures, currencies, and commodities, to interest rate caps, floors and collars, to a whole class of hybrid instruments combining futures, swaps, and options, and to an emerging category of contingent options, where payoffs are a function of multiple conditions taking hold.

Writing over-the-counter options, particularly the more complicated ones, is a very different business from traditional activities of a bank or a securities firm. It is closer conceptually to some of the kinds of risks that are taken by casualty insurance companies when there is no true actuarial basis for setting a premium. For over-the-counter options writers, it is also equally challenging to put a valid market value during the effective tenor of complex options. That is particularly the case in today's environment when the volatility of financial asset values is itself so volatile, therefore raising great uncertainty about the credibility of standard options pricing models, for which an estimate of future volatility is a critical variable.

Moreover, because originating financial options creates risks that cannot be perfectly hedged without effectively undoing the transactions altogether, the resulting risks normally have to be managed through a

process of dynamic hedging. But this can be done only inexactly -- and even then with the guidance of extraordinarily complex computerized models which themselves are not infallible, since they are built on the basis of data gleaned from past history. More than one major financial institution these days is potentially jeopardizing its viability on the power and reliability of its models for several critical functions: pricing of complex options, or securities and swaps with embedded options, identification of exposures, evaluation of positions under changing circumstances -- now known to the trade as "stress testing" -- and portfolio risk management. But no one knows how robust the models are to unusual market developments, how they might break down, and what consequences a breakdown would bring about.

Thus, it is not an exaggeration to suggest that the OTC options-related segment of the financial derivatives market is where many of the greatest dangers to the financial system probably lie. It is a highly complex undertaking, demanding exceptionally qualified technical personnel and knowledgeable, vigilant senior management. The basic mathematical skills are perhaps learnable over time, but in the here and now the presence of adequate skills in any particular institution cannot be taken for granted. Financial institutions -- as well as their ultimate clients -- are not equally endowed with talent, nor with adequate computational facilities or modeling capabilities. People make mistakes and errors of judgment and all the internal controls may come up short in identifying these problems and rectifying them in time. What financial derivatives require is discipline and diligence, plus the attention to detail that is not always the obvious characteristic of the successful trader. Is general management prepared to override the intentions of profitable traders when internal risk guidelines are breached? That is the logic of risk management, but it is against human nature to believe the overseers will always prevail.

Moreover, options-writing by banks and securities firms, like interest rate swaps, forward rate agreements, and several other derivatives activities, is barely a decade old, so it is as yet untested by any number of uncomfortable scenarios: such as a period of extreme monetary policy stringency producing a steeply inverted yield curve; or a prolonged bear market for financial markets; or a string of large corporate bankruptcies; or a new round of debt moratoriums by developing country borrowers. Such events posed considerable challenges to financial participants in the past, but may or may not be taken in stride easily by originators of financial options. It raises a legitimate question about the experience and judgment of the youngish traders, quants, and management people who conduct this business in most firms. Very few are old enough to have been tested by long periods of adverse market circumstances, such as has occurred in earlier decades, and in any case, since over-the-counter options origination didn't exist during those periods, there is no relevant historical record to analyze, either.

What is known about the resiliency of certain financial options in recent times is not altogether reassuring. There have been several

episodes in which derivatives have been tested and problems have been exposed. One kind of options-related financial product, portfolio insurance on equities, was sorely tested by the stock market break of October, 1987, was found wanting, and was abandoned. The approach depended on there being a continuous, liquid market in the underlying instrument, namely futures on equity indexes, and in the troubled conditions of those turbulent days, that assumption did not hold. Another instance of market illiquidity making it impossible to use dynamic hedging as required was at the time of the crisis within the European Monetary System in September 1992. Again, there was a stark discontinuity in the values of currencies, spot and forward markets for a large number of European currencies literally seized up for a time, and several banks were forced to take sizable losses on their foreign currency options books because they couldn't implement dynamic hedging procedures. To take another example, just recently a rather sizable number of corporations have met with mishaps in their use of highly complex derivatives products that either overly or inadvertently left them with significant derivatives exposures that ultimately led to large reported losses.

To conclude this section on concepts and distinctions, I want to call attention to a major error in perception that has seeped into many discussions of financial derivatives: namely, the error of ignoring securitized credits in which there are embedded options or other financial derivatives. [For instance, the General Accounting Office, in their otherwise useful study of financial derivatives, specifically excluded such instruments from their analysis.] The largest in size and probably most important of securitized credits are collateralized mortgage obligations and the underlying mortgage pass through securities from which they are assembled. Because of the explicit call protection contained in a standard home mortgage, all mortgage-related securities have some options-related risk. Some CMO tranches are insulated against these risks better than others. Certain tranches are exceptionally sensitive to even slight changes in mortgage prepayment patterns and interest rate levels. They are thus best understood as highly leveraged financial derivatives, rather than ordinary credit instruments. This renders them difficult to evaluate and to hedge, leads to spasms of illiquidity in the marketplace, and makes it impossible to get valid mark-to-market quotes. This is no hypothetical concern. This sequence of events recently led to the failure this past winter of a large hedge fund that specialized in exotic mortgage instruments. Months have passed, but trading in a large number of mortgage derivatives has not yet returned to normal.

To take this one step farther, while financial derivatives are embodied in securitized credit instruments, there is no direct mechanism for hedging the associated risks. Therefore, when pressures, say, in the mortgage sector cause liquidity to dry up in that market, those pressures are bound to ricochet throughout the entire fixed-income marketplace as investors and dealers seek to protect themselves from further erosion in values by making use of financial derivatives on US Treasuries or Treasury futures. The inevitable consequence is increased volatility of bond prices and yields.

One last distinction that needs to be made: Financial derivatives link markets. But they do so both directly and indirectly. Because of the indirect linkages, the most liquid markets are effectively forced to serve as the transmission belt for pressures emanating in the less liquid ones to destabilize the others. This linkage has been vividly demonstrated in the United States in the mortgage-securities area. It has also been apparent in the startling spill over of the setback in the US bond market onto European bond markets earlier this year. And the process of cross-market hedging has been a distinctive feature in the operation of the securitized LDC debt markets, which experienced extraordinary volatility so far this year. Such linkages are likely to be a permanent feature of our new interconnected financial world and are made all the stronger by broader access to financial derivatives.

Current Issues Relating to Financial Derivatives

As financial derivatives activity continues to grow rapidly, a number of issues have been raised about the impact of that growth on the financial exposure of individual firms and the attendant risks to the safety and soundness of the financial system. Several studies of financial derivatives have been conducted either to highlight or alleviate concerns, but many serious issues remain. Let me comment on several of the most important of these.

1. Market-making vs. Proprietary Trading: What is the real source of profitability in financial derivatives? No outsider really knows. The principal market makers in financial derivatives uniformly describe their business as helping their clients meet their perceived needs for risk management products. They intimate that much of their profitability stems from fulfilling that function. Yet, they also concede that their traders take sizable positions for the institution's own account -- whether the institution is a bank, securities firm, insurance company, or finance company. Few dealers have come out and stated clearly how much of their profits can be attributed to market making activities and how much results from proprietary trading. Hardly any have indicated the magnitude of open exposures that are being carried on average, the maximum exposures taken, and the scale of risk associated with these exposures. About the most that is asserted is that internal monitoring controls of risks is sophisticated and strictly adhered to. But this is impossible to verify.

The issue is to what extent and how often the decisions taken by financial institutions in creating and monitoring exposures should be subjected to the scrutiny of regulatory agencies, who must be in a position to rely on their own risk management models to double check on the reliability, sophistication and resilience of models in operation by market participants. Moreover, regulatory agencies have to collaborate and amalgamate the results of their individual inspections. It is unlikely that official agencies can adequately respond in the event of an unforeseeable shock to the financial markets unless there is a full appreciation of the size

and composition of risk exposures being taken throughout the market, not merely those taken by the specific sub-set of institutions that any one agency is responsible for overseeing. I have long argued that the situation is inherently unsatisfactory unless the central bank, which is the only financial regulatory institution with the specific mandate to maintain the safety and soundness of the system as a whole, has access to this type of detailed information. But somehow this proposition has not been universally accepted within government circles, and so we are left with a situation where the central bank may be compelled to respond to a serious market disturbance with only incomplete and out-of-date information on what might turn out to be very dangerous risk exposures in the derivatives positions of certain major market participants.

2. Marking to market: Limitations and Consequences. Marking to market is the key ingredient in measuring and controlling risk, calculating profit and loss, and evaluating performance. Even under normal conditions, it is not a cut and dried process, except for certain highly active sectors, such the listed equities market, the on-the-run Government securities market, and the short- and medium-term forward foreign exchange market. Otherwise, for corporate debt obligations, securities issued by borrowers in emerging markets, municipal bonds, many segments of the mortgage securities market, and a wide range of financial derivatives, especially over-the-counter options, attaining valid pricing is not an exact science. In volatile markets, such as we have experienced lately, liquidity may suddenly disappear as many dealers withdraw from active participation. Under those circumstances, marking to market may be practically impossible for many of these instruments. Why is this so and what are the consequences?

First, the price of the last trade may be completely invalid in rapidly moving markets, particularly for illiquid securities and certainly for most options. Second, the price that a dealer is prepared to quote may be little more than an indication of what the security or option is worth, not the price at which the dealer is prepared to trade. Another dealer may quote, on that same indications-only basis, a wildly different price. For the institution trying to mark to market that position, there is no reliable arbiter of where the 'true' price is. Third, the price quoted may be valid for trading only a very small amount, not the full amount that the investor has in portfolio. Fourth, the assumptions used by a dealer in providing a price for an existing options may be highly questionable, and marking to market that options position is not verifiable with other dealers.

This unsatisfactory state of affairs has always existed to some extent. But the situation has gotten worse, as the volatility of asset prices has surged, as securities themselves have become more complex, especially in the mortgage derivatives sector, as the over-the-counter options market has mushroomed, and as international diversification has proceeded---since it is often more difficult to get reliable prices of many foreign securities. The consequences of this inability to accurately mark to market can be calamitous, as in the recent case of the failure of a highly leveraged

mortgage portfolio manager. More generally, an inability to mark to market is a continuing source of uncertainty in risk management and potentially can distort performance returns. It also raises genuine questions about the credibility of assertions by leading market participants that they are able to monitor all their outstanding risk exposures on a real time basis. How can that be true when absolute control requires flawless marking to market -- and that degree of exactitude cannot be attained when underlying markets become illiquid and the availability of accurate pricing evaporates? It is a strong argument for additional stress testing of risk management systems under conditions of extreme reduction of market liquidity, including the assumption of extended periods of time in which no transactions are possible.

3. Measurement and control of credit risk. As I have emphasized, a large portion of the risk entailed in financial derivatives stems from market exposures -- that is, going long or short bonds, stocks, currencies, commodities or something else and being exposed to adverse movements in asset prices. But old-fashioned credit risks are not absent, and they may appear in novel forms. Thus, continuous credit evaluation based on independent credit judgments is central to avoiding large credit losses.

The impression that emerges from studies of current market practices is that the mechanism for credit evaluation is episodic and somewhat dependent on input from the ratings agencies. This is certainly a good starting point, but it just scratches the surface. The credit judgments that matter most relate to exposures resulting from transactions with new types of organizations, such as leveraged funds, for which conventional credit ratings are inapplicable, or with subsidiaries of non-financial corporations which may have a complex and not entirely unambiguous relationship with the parent. This raises several difficult questions: How often are credit reviews done in these cases? How good are the data fed into the review process? Who makes sure they are right and updated frequently?

I appreciate that many market participants are tough about credit standards and require collateral or the equivalent of variation margin from their more aggressive customers. But newcomers to the market may not be so fussy. As competition in the marketplace increases, the likely effect will be for dealers to scale back their requests for collateral, margin, and even data. Regulatory authorities ought to be alert to the potential for an erosion of credit review standards and be asking these questions now, even though the real problem may lie more in the future.

4. Proper role of a corporate treasury function. The proper role of the corporate treasury function of a nonfinancial corporation has long been debated. In simplest terms, the issue is whether it is appropriate for a nonfinancial corporation to reach beyond what is normally regarded as its core business -- which is, after all, what the majority of its shareholders have chosen to invest in -- and to branch out into somebody else's business, namely that of a financial institution, by transforming its treasury function into a profit center, rather than as a financial risk manager. This debates naturally resurfaces whenever some well-known nonfinancial

corporations report losses stemming from financial activities. To be candid, this is a genuinely complicated issue on which reasonable people differ, and it deserves a far more elaborate discussion than I can possibly provide today. But several points are highly relevant to the present and prospective functioning of the derivatives market.

All nonfinancial corporations, and particularly those with world-wide activities, must have sophisticated treasury functions that can accomplish multiple tasks: overseeing the company's balance sheet, arranging new financing, managing cash flows, dealing with routine currency risks, and protecting against sudden drops in income. All of these traditional financial activities can be carried out with greater flexibility and precision -- and sometimes with an overall reduction of risk exposures -- by making prudent use of financial derivatives. None of this is really at issue, as long as the corporation's board of directors fully reviews and approves the nature of the operations and the instruments that may be used, specifies in detail the company's tolerance for risk, and establishes clear internal guidelines and controls to prevent transactions in unauthorized financial instruments or a build-up in risk exposures in excess of the limits. If there are breaches of internal limits, there should be strict accountability, certainly up to the CFO level. If there is poor performance in conducting authorized financial activities, then management changes are called for, just as in any operating division of the corporation.

This much is not terribly controversial, although it may be quite difficult to implement in practice. What is at issue is whether the corporate treasury function should be treated as a profit center, with the mandate to go beyond asset-liability and risk management, and to trade securities, currencies, and derivatives dynamically, in order to enhance the overall rate of return of the corporation. This can effectively amount to managing an in-house bank or, taken to its extreme, an in-house hedge fund. No one should lose sight of the fact that this leverages the financial resources of the company, with all the attendant risks that entails, and is a deployment of a firm's capital. Probably only a few corporations go very far in this direction, but several do and they include some of the largest companies in the world. Those corporations have often been at the leading edge of financial innovation and so far have successful performance records. But they are not infallible.

Naturally, the leading dealers in derivatives are adamantly opposed to any outside prohibitions on the use of these instruments by nonfinancial corporations. The benefits of being able to deal in size with such companies far outweighs any threat their growing presence as financial competitors may entail. But the phenomenon does raise serious questions about corporate governance -- how much the boards of directors of nonfinancial corporations engaged in dynamic trading of derivatives are involved in the decision to establish these treasury profit centers, what guidelines and limits they set on this activity as contrasted with the more traditional treasury functions, and how closely they oversee the risks taken and overall performance. And it inevitably raises the issue of the adequacy of financial reporting and disclosure, the next topic on my list.

5. Financial reporting and disclosure. Concerns about risks in financial derivatives might be allayed by more sunshine on the size of the markets and the types of exposures being carried by market participants. For instance, shareholders find it difficult to make educated decisions about the likely future performance of a firm or financial institution without knowing how much leverage is truly employed, over and above that portion of leverage that happens to show up on the balance sheet. But the data now available falls short of what is needed to provide that degree of information. The absence of extensive, reliable, and timely data on derivatives activities and exposures is indefensible, particularly in view of the repeated assertions by senior management of nonfinancial corporations and financial market participants alike that they are already conducting their business on the basis of accurate, up-to-the-minute data on positions and risk exposures. Well, if they know this information at every moment in time, then surely they are in a position to report summaries of it more frequently and in far greater detail than at present!

From the perspective of the financial institutions participating in the marketplace, one lesson from past financial mishaps is worth revisiting. The need for comprehensive, timely data was driven home forcefully by the LDC debt crisis of the early 1980s. At its onset, it was startling how poor official data had been on the size of the market and the magnitude of collective exposures being taken when you added up the positions of the several hundred banks that were involved in that form of lending. Data collection was improved dramatically after the debt payments interruptions took place, but by then it was too late. There is a danger of this kind of shortcoming being replicated in the case of derivatives. But rectifying this situation will not be easy. These are global markets. It will take a thoroughgoing international effort with full compliance to produce an acceptable statistical network.

6. Do derivatives lessen or accentuate the financial cycle? Proponents of derivatives tend to argue that derivatives don't create or diminish risk in the aggregate. They merely reshuffle it from those less prepared to deal with it to those who are more equipped to do so. On this argument, therefore, economic and financial activity is thought to be able to proceed with fewer fits and starts, since there will be fewer negative surprises and unforeseen losses that undercut business decisions.

My view is that this line of reasoning is flawed. Financial derivatives do have a net impact on the functioning of the credit system, but it is not necessarily felicitous. They permit greater leverage in the system, and thus pose a real challenge for the conduct of monetary policy.

Let me explain, using as an illustration the development of interest rate swaps. Like the advent of floating rate financing that preceded it, the development of interest rate swaps enable a marginal credit to stay in the market longer than would otherwise be the case. This means that projects that would have been denied at an earlier stage of past business expansions are able to go forward, thereby stimulating still further economic growth and prolonging the upswing of the cycle. When

economic activity eventually ebbs and asset values are adversely affected, the downward adjustment is all the more abrupt and disruptive. And since the typical payer of fixed rates in an interest rate swap is ordinarily the weaker credit, it does not get the benefit of the subsequent decline in short-term rates that would cushion the impact for the floating rate borrower.

In the new financial world in which the capacity to leverage has been much enhanced, it is essential that the large financial institutions, whether they are nominally considered to be banks, securities firms, insurance companies, or something else, pursue a higher standard of conduct in their business activities. They must take account not only of their narrow private interests but of their broader responsibilities to clients and even to the general public.

Recommendations

Having discussed in some detail the context in which financial derivatives have developed, I want to turn now to the specific provisions of H.R. 4503 and make several comments. First, it is clear that a great deal of work on the subject of financial derivatives has gone into the development of this proposal. This effort is very constructive. It alerts market participants to the valid concerns that are raised by the dynamic growth and increasing complexity of derivative instruments, perhaps highlighted by certain mishaps that have occurred in the marketplace. It also underscores the basic fiduciary responsibility members of Congress have with respect to the American taxpayer. No one who has lived through the excesses of the 1980s, the debt crisis of the less developed countries and later the collapse of commercial real estate lending, can be complacent about the unintended and unforeseen consequences of rapid expansion of any financial activity. Therefore, close scrutiny of the evolution of the market for financial derivatives is justified.

Second, I was happy to see that a number of the provisions of the bill closely parallel some of the recommendations that I have made over recent years. They identify important practical areas where improvements can be made. For example, one provision rightly asks regulators to work together to establish principles and standards relating to such matters as capital, accounting, and disclosure -- although I am skeptical about the desirability of rules and regulations governing "suitability" for wholesale financial markets. Another provision invites regulators to consider what additional data they need to meet their responsibilities. Another hones in on the need for boards of directors to fulfill an active management responsibility, based on genuine expertise of the nature of the markets and the character and magnitude of the risks being undertaken. And other provisions call for the Treasury, the Federal Reserve and the Comptroller of the Currency to work toward greater international harmonization of regulation and supervision in the area of financial derivatives. These are worthwhile undertakings. I would hope that all of the official agencies

involved would willingly embrace their general thrust and ask their own professional staff to follow up. Indeed, it seems to me that those regulatory agencies could put in place much of the substance of the bill under the umbrella of current law, without the need for new legislation which might inadvertently introduce other problems.

The major reason why I part company with the bill is its narrow focus. This means it does not deal with the fundamental point that the problem for the financial system is not derivatives, but is the sweeping changes in the structure of financial institutions and markets that have made our overall system of financial supervision and regulation obsolete. Therefore, truly beneficial initiatives for reforming financial supervision and regulation must go beyond dealing with the expansion of derivatives by commercial banks and other depository institutions. They must deal with all of the elements of market and institutional change that have led to the intricately interrelated global financial system that now exists. This proposed legislation, despite a number of provisions that are sensible and desirable, does not really fulfill this criterion.

I have made a number of proposals along these lines over recent years in an effort to contribute to a public debate over the appropriate response of official financial supervision and regulation to the new financial world I have outlined. My recommendations can be briefly summarized as follows:

First, once it is recognized that the new world financial structure cuts across traditional institutional demarcations, then it is clear we need to bring together banking, securities, and insurance regulators so that they can reach agreement on standards -- accounting standards, disclosure standards, and trading standards. The currently large differences from country to country need to be reduced. Accounting standards for financial institutions range from strict to lenient, disclosure standards from transparent to opaque, trading standards from permissive to regimented. With institutions of every type involved in the capital markets, greater harmonization is essential.

Second, regulatory coverage must be extended to those financial institutions that are now effectively unregulated, such as finance companies. Otherwise, competitive realities will eventually lead to a shift of business away from the regulated entities, and the safety and soundness of the financial system will suffer. This is one of the strongest recommendations of the recently released study of derivatives by the General Accounting Office, and I am glad they came to this conclusion.

Third, regulatory oversight of securitization needs to be clarified. Securitization has made a major positive contribution by transforming the assets of financial institutions into more marketable and therefore more liquid investment instruments. But it has also introduced new forms of risk. Many investors -- and not just unsophisticated investors -- have been subjected to sizable losses, notably in mortgage-related derivatives, because these risks have not been fully appreciated. Any reformulated

regulatory structure will have to bring securitized credit more explicitly under its oversight responsibilities. As I mentioned earlier, I was disappointed that the GAO study missed an opportunity to investigate these matters; that oversight was a major shortcoming.

Fourth, further work is needed in the area of capital standards. As has been already recognized by leading regulatory officials, we still lack a common approach to evaluating market risks and the risks associated with off-balance sheet activities. I understand that work is still going on in this area by committees of regulators, but progress has been far too slow. Somebody ought to light a fire under the actors.

Fifth, as the consolidation of financial institutions proceeds, it is inevitable that there will need to be international agreements on the investment powers of universal banks and the potential for undesirable conflicts of interest as more financial institutions play the dual roles of lender and shareholder. Where this touches on derivatives is in the relationship between proprietary trading and customer business.

Sixth, these and the many other issues that inevitably flow from the greater internationalization and complexity of finance cannot be dealt with reasonably and in a timely way without an ongoing institutional capability. I have long believed that the most promising approach would be to establish a new international institution to serve as the focal point for regulatory harmonization. The most promising route would be to create a Board of Overseers of Major International Institutions and Markets. The international Board would consist of central bank and other governmental agencies. It should also include members drawn from the private sector. It should be empowered to set mutually acceptable minimum capital requirements for all major institutions, to establish uniform trading, reporting and disclosure standards for open credit markets, and to monitor the performance of institutions and markets under its jurisdiction.

In sum, while I applaud the high objectives of H.R. 4503, I cannot support the bill in its entirety because its narrow focus on depository institutions does not correspond with the marketplace as it is now and is quickly evolving. Already we have a system made up of various types of financial institutions which are being regulated in totally different ways. Some institutions or parts of them are not regulated at all. Superimposing the standards envisaged in H.R. 4503 on top of this patch-work quilt of institutional and regulatory diversity will not come to grips with the basic problems of the safety and soundness of the financial system at large. To the contrary, it may inadvertently worsen the present situation by tilting the competitive playing field against that sub-set of institutions, the U.S. commercial banks, which is already highly regulated, and in favor of other domestic and foreign institutions that benefit from relative regulatory laxity. Taking on that broader problem is a task that goes well beyond the narrow confines of the bill before the Committee.

To be sure, that would be an enormously ambitious undertaking. Right now, while various components of the problem are being addressed, no one Congressional Committee nor the Administration appears to be in a position to take the lead in tackling it, even though there is general agreement that the current structure of financial supervision and regulation is unsatisfactory in a number of respects.

Therefore, I would like to conclude by reviving a proposal that I have made in the past: that is, the Congress and the Administration should jointly establish a **National Commission on the Financial System** to conduct a thorough examination of the changes in the structure of financial institutions and markets and the implications for the legal and regulatory framework under which financial institutions and markets should operate in the 21st century. This Commission should be comprised of members of Congress, senior Administration officials, current and former regulatory officials, and participants in the private financial markets. It should be charged to work together with similar groups in the other major industrial countries, with existing multinational official financial agencies, including the International Monetary Fund (IMF), the Bank for International Settlements (BIS), and the International Organization of Securities Commissions (IOSCO), as well as with private sector entities such as the Financial Accounting Standards Board (FASB) and its international counterparts. The mandate should be to study changes in the market, hold hearings with the relevant participants, identify shortcomings in current practices, and propose specific legislative or regulatory changes that would be required to remedy these shortcomings. This will take a committed effort on the part of all who take part, but I would expect that the National Commission should be prepared to complete its work within 1 1/2 to 2 years.

The challenge is to achieve meaningful supervisory and regulatory reform before a crisis, while there is time for a balanced assessment of the merits of competing proposals. Perhaps the mishaps of the early months of this year, which fall short of a crisis, but were clearly painful to several market participants, will galvanize attention on these issues. But I worry that it will take more volatility and greater losses before market participants and regulatory officials come to the realization that financial markets have permanently changed and require a reexamination of how the new business of finance is done, reported, and regulated.

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HENRY KAUFMAN & COMPANY, INC.

Financial Derivatives in a Rapidly Changing Financial World

Henry Kaufman, President
Henry Kaufman & Company, Inc.

A Talk Delivered Before the
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Skinners' Hall, London, England, October 14, 1993

I want to speak to you today about some broad economic and financial aspects of financial derivatives, about how derivatives are just part of a vastly changing financial landscape, and about the implications of all these changes for official supervision and regulation of financial institutions and markets. I approach the subject as a practitioner. My money management firm is a user of some of the products, we advise institutions which employ them, and I am a former executive committee member of a securities firm which has been a leader in financial derivatives.

Futures, forwards, interest rate and currency swaps, and related options serve genuine needs. Derivatives are here to stay. A wide array of corporations, financial institutions, and investors increasingly rely on access to them. Consequently, proper functioning of these markets is in everyone's interest.

While fully recognizing these benefits, I also believe that the risks involved with financial derivatives -- not only the risks to individual participants but the broader risks to the economy and the financial system as a whole -- may not be fully appreciated, either by market participants or by official financial supervisors and regulators. The high market volatility of our new financial world and the potential for even higher volatility given the broad range of instruments available to participants contain the seeds of potentially adverse consequences for investment, for credit creation, and ultimately for monetary policy.

I express this concern even though considerable insight has been shed on financial derivatives by a number of important recent studies. The survey conducted by the Bank of England earlier this year provided an excellent look at how practitioners at financial institutions see the

market evolving. The comprehensive report sponsored by the Group of 30 published in July 1993 represented a huge step forward in explicating how the markets are functioning and in identifying best practices. The Group of 30 has made a series of detailed recommendations comparable to a sensible code of conduct for market participants. A code of conduct, of course, is one thing; gaining adherence to it, however, is another.

To understand the broader ramifications of financial derivatives, I feel we always have to recognize that they should not be viewed in isolation. They are merely one of a number of important structural developments that are not adequately dealt with by the awkward and outdated supervisory and regulatory framework still in operation. That is why a new commitment to financial regulatory and supervisory modernization and reform is needed now, at a time of reasonable calm in the financial markets and improving financial conditions for most institutional participants. Continuing to put that off until some unforeseen shock exposes those inadequacies could inflict a great deal of financial pain and cost.

With these preliminary comments in mind, let me begin by reviewing the historical context in which financial derivatives have developed and flourished.

Historical Context

Derivatives are part of a long-standing movement, going back well over two decades, toward permissiveness in financial regulation, technology-driven financial innovation, and the homogenization of finance. These trends include the dramatic rise in floating rate financing opportunities; massive securitization of mortgages and other financial products; sweeping internationalization of trading of currencies, bonds, and equities; a striking shift toward institutionalization of portfolio investment; and a worldwide explosion of budgetary deficits and the associated mushrooming of so-called risk-free government bonds, which provide ample raw material for many advanced derivatives strategies. Many of the risks that derivatives are meant to manage stem from this very process of financial deregulation and financial market innovation.

As part and parcel of this process, we have seen the breakdown of the tidy compartments of traditional finance, where commercial banks did commercial banking, investment banks did investment banking, thrifts in America -- and building societies in the UK -- did home mortgage financing, insurance companies wrote insurance policies, and so on. That world is long gone, as financial institutions push and shove to get into each others' businesses. But the system of financial regulation that was constructed for that lost world staggers on, largely unreformed. The tendency continues to be to add regulatory agencies in response to market innovations, not to consolidate or streamline the official apparatus.

Financial derivatives are probably the fastest growing segment of the financial scene today, and some may take it for granted that this was somehow preordained. But it is easy to overlook the fact that rapid growth in financial derivatives has taken place under unusually favorable economic and financial conditions. Thus, it is an open question whether future expansion of derivatives markets will proceed as smoothly in a less propitious environment.

These auspicious conditions include six elements:

- o **First**, generally diminishing world inflation. This has greatly encouraged investment in financial assets, fixed-income securities and equities alike. As professionally-managed portfolios have increased in size and global scope, many investment managers have sought to limit exposure to market risks by making use of derivatives. This, in turn, has provided a steady source of business for those financial institutions specializing in providing financial derivatives for risk management purposes.
- o **Second**, in the past several years, the emergence of a steep positively sloped yield curve in the United States and a few other important countries has indirectly been highly supportive of growth of derivatives markets. This is because emergence of a positively sloped yield curve has enabled a wide range of market participants to boost profitability and, thus, overall financial strength without having to incur greater credit risk. This allows a greater number of financial institutions to take part in the markets for financial derivatives.
- o **Third**, large-scale disintermediation of the credit-creation process is taking place in many of the advanced industrial countries. Access to the public capital markets has increased sharply, while traditional lenders have become more conservative in pursuing new lending opportunities. This change in competitive conditions within the financial sector has encouraged many of the larger financial institutions to put additional resources into a variety of capital markets activities, including derivatives. Of course, once those capabilities are developed, they will not be easily dismantled, even if loan demand should pick up as economic expansion proceeds.
- o **Fourth**, the emergence of large pools of risk capital under the direction of managers aggressively seeking high rates of return -- and able to amass large open positions in currencies, bonds, or stocks -- is an important spur to development of financial derivatives. That is because for every cautious portfolio manager hoping to use financial derivatives to limit risk, there has to be a willing risk taker on the other side. Without the active participation of prominent speculators, the market would be lopsided, and the cost of derivatives to risk-averse businesses and investors trying to hedge open exposures would be prohibitive.

- o Fifth, development of derivatives markets has been stimulated by sudden bursts of unusual price volatility in a number of underlying financial markets in recent times. For instance, the eruptions within the European Exchange Rate Mechanism just over a year ago were particularly conducive to the growth of the markets. Risk-averse businesses and investors were able to acquire the hedges they wanted, while speculators were able to take the kind of open positions they believed would go up in value on the assumption that the European financial authorities would be unable or unwilling to maintain prescribed exchange rate relationships. In the end, that assumption proved to be correct. To be sure, some market participants got caught leaning the wrong way, and segments of the derivatives markets, notably certain OTC options, did not perform well under stress. But by and large, the private sector was the beneficiary of large profits, while the central banks in Europe were left with sizable losses. One might well raise the question, therefore, of what would have happened to many private market participants if the central banks had made the profits!
- o Sixth, the history of the emergence of an extensive market in financial derivatives more or less parallels significant technological breakthroughs. That includes the development of powerful mathematical tools that permitted quantification of many of the underlying risks involved in exotic instruments, alongside the sudden availability of relatively cheap computers that allowed the intricate calculations necessary to manage complex exposures in swaps and options. The key point was that the leaders in developing the business had a firm grasp of how constructing state-of-the-art analytical systems could be put to immediate practical use, yielding a formidable competitive advantage in the marketplace.

Looking ahead, it is clear that many of these favorable circumstances will not recur. No one has adequately confronted the question of how the derivatives markets will behave as competitive conditions turn less favorable.

Implications of Increased Competition for Financial Derivatives

One thing we can count on, based on long experience, is that current high profitability in derivatives will inevitably pull in a greater number of market participants, eventually depressing profit margins and inducing many to rationalize the taking on of greater risk. This is because, in our new world of deregulation and innovation, financial market participants will always push risk-taking to the marginal edge, unless specifically prohibited from doing so and carefully examined. It is at the marginal edge of risk-taking where competition is least, profit margins are highest, and fees are most lucrative. In largely deregulated

markets, the regulatory superstructure does not provide a safe haven where relatively secure profits can be made. Instead, deregulated financial institutions face intensified competition in core businesses and, therefore, they are under greater pressure to move toward the marginal edge.

In practical terms, this means that it will no longer be possible to earn substantial profits in the simpler types of derivatives, such as short-term interest rate swaps in a single currency. Instead, to be successful will require creation of more complex variants or writing the business over longer time horizons, thereby increasing the risks proportionately.

By comparison, in more regulated financial markets, protected segments are carved out that allow the average regulated financial institution to earn nice rates of return without stretching. Admittedly, some will always stretch, and even those institutions most conscientious in following official rules will be lured toward marginal loans or investments. Nevertheless, regulated financial markets rarely attract the kind of risk-taking entrepreneurs who are inevitably drawn to a deregulated environment, such as we have in financial derivatives.

So far, the technical complexity of many of the products and trading methods has hampered market entry, but that is not a lasting impediment. The business is learnable, the models can be replicated, and the staff is trainable. Business schools around the world are churning out quantitatively skilled graduates at an accelerating pace. Computers are getting cheaper than ever. Quite soon, excess capacity will begin to emerge, and life will be more difficult for all market participants. In time, the squeeze on profit margins apparent with interest rate swaps will probably affect the more complex instruments, as well.

The Group of 30 and Bank of England studies of financial derivatives emphasize the gap that currently exists between the so-called sophisticated market participants and those that are less advanced in market knowledge and technical systems. But this is surely a transitory phenomenon. Those now considered "backward" will catch up, while a few of those now classified as "sophisticated" may stumble and take occasional losses, as we have already seen in one complex area, the market for derivatives on mortgage securities.

The reason that I stress the dangers which might appear in financial derivatives in a more competitive market environment is that at present insufficient attention is given to how market participants actually make profits in derivatives. Neither the Group of 30 study, the Bank of England study nor any of the other treatments so far have adequately detailed the sources of revenue in derivatives activities. In fact, one of the most penetrating recommendations in the Group of 30 study was #4: "Dealers should measure the components of revenue regularly and in sufficient detail to understand the sources of risk." Why is this recommendation in there? Because, as the study notes: "... few dealers

identify individual sources of revenue. This should be a more common practice." Of course it should, and it should immediately be required by supervisory officials.

Risks in Financial Derivatives

What the lack of revenue attribution implies is that market participants may be trying to downplay the amount of market risk they are taking, at least during the course of a trading day, as they operate in the markets. If, as many in senior management maintain, the bulk of the profits comes from "running the casino" rather than "playing at the tables", that should be backed up with hard numbers. Otherwise, the suspicion is that profits stem mainly from position-taking, which entails market exposure, and not from merely marrying bids and offers.

Furthermore, it is incumbent on the regulatory bodies to build their own models to assess risk and return, rather than merely looking over the shoulders of the banks, securities firms and insurance companies they are examining. Then it will be more apparent how profit is being made and what risks are being taken in the process. Naturally, those bodies must have talented staff capable of performing that difficult function. That is hard, given the growing disparity in pay scales between supervisory personnel and derivatives practitioners.

A large portion of the risk entailed in financial derivatives stems from market exposures, but old-fashioned credit risks are not absent, and they may appear in novel forms. Thus, continuous credit evaluation based on independent credit judgments is central to avoiding large credit losses.

The impression that emerges from the Group of 30 study is that the mechanism for credit evaluation is episodic and somewhat dependent on input from the ratings agencies. This is certainly a good starting point, but it just scratches the surface. The credit judgments that matter most are with respect to exposures resulting from transactions with new types of organizations, such as leveraged funds, for which conventional credit ratings are inapplicable, or with subsidiaries of non-financial corporations which may have a complex and not entirely unambiguous relationship with the parent. This raises several difficult questions: How often are credit reviews done in these cases? How good are the data fed into the review process? Who makes sure they are right and updated frequently?

Granted, some market participants are tough about credit standards and require collateral or the equivalent of variation margin from their more aggressive customers. But newcomers to the market may not be so fussy. As competition in the marketplace increases, the likely effect will be for dealers to scale back their requests for collateral, margin, and even data. Regulatory authorities ought to be alert to the potential for an erosion of credit review standards and be asking these questions now, even though the real problem may lie more in the future.

The nagging concern on the part of a number of us about risks in financial derivatives might be allayed by more sunshine on the size of the markets and the types of exposures being carried by market participants. But the data now available falls short of what is needed to provide that comfort. The absence of extensive, reliable, and timely data on derivatives activities and exposures is indefensible and should be corrected.

One of the most painful lessons driven home forcefully by the LDC debt crisis was how poor official data was on the size of the market and the size of exposures being taken. Data collection improved dramatically after the debt payments interruptions took place, but that was too late. There is a danger of this being replicated in the case of derivatives. These are global markets. It will take a thoroughgoing international effort to produce an acceptable statistical network. One of the most striking things about the useful article on derivatives published last month by the staff of the International Monetary Fund (IMF) was that the data they showed on derivatives dated back to the end of 1991. If that is the latest data available to the IMF, no one should be comfortable.

Getting better data on derivatives is not merely a challenge for the usual collection agencies, normally financial regulators. It is going to take a parallel effort by the organizations responsible for accounting standards and disclosure. This information is obviously needed by dealers or how else can they do a legitimate job of evaluating credit risk? It is no less important to investors in equities and bonds, as well as to the regulatory authorities, themselves. The Group of 30 study did a commendable job of bringing out the need for attention to this matter, but somebody will have to play a leadership role in getting action.

Vulnerabilities in the derivatives markets cannot be casually dismissed by market participants. The Group of 30 study ended up with an assessment of systemic risk factors that bordered on the complacent. Particularly unpersuasive is the claim that because large losses haven't happened, they can't in the future. Exactly the same argument was made about LDC loans as late as 1981 and about LBO and commercial real estate lending as late as 1988.

A more balanced treatment of the potential for a systemic shock would give greater weight to the known vulnerabilities in derivatives markets. They are known vulnerabilities because already at least some segments of the derivatives markets have been subjected to strain in two past periods of market turmoil: the stock market break of October 1987 and the ERM crisis of September 1992.

Much of the unwarranted complacency about risks in derivatives boils down to the proposition that risk positions can always be managed and any open position can always be covered before it goes hopelessly wrong. For OTC options writers, and for some kinds of swaps as well, this is wrong whenever there is even the tiniest probability of trading halts or of the abandonment of market making by a leading dealer (perhaps because the dealer came up against internal trading limits that

prevented it from playing its accustomed role in the market). When that sort of thing happens, normal market access shrinks and new hedges cannot be put on when essentially everybody in the market is trying to do the same thing at the same time. As a result, volatility can cascade by orders of magnitudes, defeating even the best planned options hedging strategy.

The recent IMF staff paper on financial derivatives is explicit on the problems of dynamically hedging an OTC options exposure:

"During the September 1992 exchange rate mechanism (ERM) crisis, for example, interest rate volatility was far outside its normal range. Hedging models built on assumptions of low volatility prescribed inappropriate mimicking portfolios for some currency and interest rate OTC options, thereby imposing serious losses on market making banks."

Accentuating Credit Cycles

Financial derivatives permit greater leverage in the system. This is a systemic problem that does not arise mainly from prudential considerations, but it poses a very real challenge for monetary policy.

Like the advent of floating rate financing that preceded it, the development of interest rate swaps enable a marginal credit to stay in the market longer than would otherwise be the case. This means that projects that would have been denied at an earlier stage of past business expansions are able to go forward, thereby stimulating still further economic growth and prolonging the upswing of the cycle. When economic activity eventually ebbs and asset values are adversely affected, the downward adjustment is all the more abrupt and disruptive. And since the typical payer of fixed rates in an interest rate swap is ordinarily the weaker credit, it does not get the benefit of the subsequent decline in short-term rates that would cushion the impact for the floating rate borrower.

In the new financial world in which the capacity to leverage has been much enhanced, it is essential that the large financial institutions, whether they are nominally considered to be banks, securities firms, insurance companies, or something else, pursue a higher standard of conduct in their business activities. They must take account not only of their narrow private interests but of their broader responsibilities to clients and even to the general public.

This is for two reasons. The first is because the largest institutions are much more interwoven in the fabric of domestic and global financial markets than ever before, as a result of new technologies, securitization, and globalization of trading, not simply the use of financial derivatives which by themselves increase interdependency.

The second reason is that the largest institutions, which are bound to grow still larger in the coming years as consolidation proceeds, will need to pursue a higher standard of conduct because of an increasing potential for serious conflicts of interest with respect to their customers. Possible conflicts of interest may arise from a collision between a financial institution's role as a creator and seller of complex financial products and its role as an unbiased advisor to its clients.

Essentially, consolidation requires that the largest financial institutions be viewed increasingly in a manner analogous to public utilities, and less like ordinary business enterprises. Otherwise, concentration will tilt too much power and influence over the direction of non-financial corporations to the largest financial institutions and therefore promote an undesirable tendency away from business competition. It is only in a financial world of many independent and moderate-sized institutions that market competition can prevail without running systemic risks. Once financial institutions get very large, both their successes and their failures pose a problem for the economy and for society at large.

Financial Supervision and Regulation

It should be noted that the Group of 30 study spent a great deal of time and thought on a number of complex characteristics of derivatives, including the fundamental fact that market participants cut across traditional institutional lines, and yet concluded that the present structure of financial regulation is just fine. It doesn't wash.

To the contrary, the framework of financial regulation has been out of date for some time. It has not kept pace with financial innovation, the break down of traditional institutional specialization, the securitization boom, internationalization of financial activity, institutionalization of investment, or, lately, the mushrooming of derivative financial instruments. All these developments require a new regulatory approach, as I have been recommending for nearly a decade. For the United States, which has perhaps the most complicated and antiquated regulatory structure, consolidation of existing regulatory agencies is needed for many reasons, not least to deal adequately with the expansion of financial derivatives. Internationally, the case for greater harmonization of supervisory and regulatory efforts is far stronger when the fastest growing sector in the financial system is being operated on an explicitly international basis, with no obvious "home base". There is no principled answer to the question of where, for example, an OTC option resides.

What is not the answer is the establishment, either in the United States or any other major country, of yet another regulatory agency specializing on derivatives. That would go in the wrong direction, further splintering the regulatory effort, diluting supervisory talent, and diffusing authority. Indeed, one of the problems I have with the present system in

the United States and some other countries is the separation, in varying degrees, of central banking from financial supervision. There are substantial benefits from viewing the task of conducting monetary policy and that of overseeing the financial system in a unified way. Those responsible for monetary policy and those responsible for financial supervision have much to learn from each other and play their respective roles more effectively when they go about fulfilling their responsibilities in coordinated way. For those primarily engaged in monetary policy, this will lead to a better hands-on understanding of the nuts and bolts of financial institutions and to a greater focus on resolving problems at an early stage, before they degenerate into some sort of crisis.

In short, we would benefit from better supervision and better monetary policy decisions. Achieving this result will not be easy or inexpensive, since a prerequisite to elevating the status of supervisory staff is to provide higher compensation, so as to attract individuals with similar skills and potential of those in the private sector who are on the leading edge of financial innovation, especially in the area of financial derivatives.

Recommendations

Let me conclude by summarizing the kind of regulatory and supervisory structure that I believe is needed to deal not only with the expansion of financial derivatives, but to deal with the many facets of financial innovation and institutional homogenization that have made the present structure outmoded.

First, building on the successful Bank for International Settlements (BIS) agreement on capital requirements for commercial banks, we need a new initiative to bring together banking, securities, and insurance regulators to reach agreement on standards -- accounting standards, disclosure standards, and trading standards. The currently large differences from country to country need to be reduced. Accounting standards for financial institutions range from strict to lenient, disclosure standards from transparent to opaque, trading standards from permissive to regimented. With institutions of every type involved in the capital markets, greater harmonization is essential.

Second, regulatory coverage must be extended to those financial institutions that are now effectively unregulated, such as finance companies. Otherwise, competitive realities will eventually lead to a shift of business away from the regulated entities, and the safety and soundness of the financial system will suffer.

Third, regulatory oversight of securitization needs to be clarified. Securitization has made a major positive contribution by transforming the assets of financial institutions into more marketable and therefore more liquid investment instruments. But it has also introduced new forms of risk. Many investors -- and not just unsophisticated investors -- have

been subjected to sizable losses, notably in mortgage-related derivatives, because these risks have not been fully appreciated. Any reformulated regulatory structure will have to bring securitized credit more explicitly under its oversight responsibilities.

Fourth, further work is needed in the area of capital standards. As has been already recognized by leading regulatory officials, we still lack a common approach to evaluating market risks and the risks associated with off-balance sheet activities.

Fifth, as the consolidation of financial institutions proceeds, it is inevitable that there will need to be international agreements on the investment powers of universal banks and the potential for undesirable conflicts of interest as more financial institutions play the dual roles of lender and shareholder.

Sixth, these and the many other issues that inevitably flow from the greater internationalization and complexity of finance cannot be dealt with reasonably and in a timely way without an ongoing institutional capability. I have long believed that the most promising approach would be to establish a new international institution to serve as the focal point for regulatory harmonization. The most promising route would be to create a Board of Overseers of Major International Institutions and Markets. The international Board would consist of central bank and other governmental agencies. It should also include members drawn from the private sector. It should be empowered to set mutually acceptable minimum capital requirements for all major institutions, to establish uniform trading, reporting and disclosure standards for open credit markets, and to monitor the performance of institutions and markets under its jurisdiction.

The new American Administration has been understandably reluctant to plow ahead with proposals for comprehensive financial regulatory reform, in part because of the unhappy experience the last Administration had in this area. But now is an unusually good time to move forward, both at home and in cooperation with the Governments of the other major industrial countries. Financial markets are reasonably tranquil. The threat of severe damage to the financial fabric has lifted to a great extent, as financial institutions in the US and a number of other major countries rebuild their profitability and restore their overall financial strength. In addition, the rapid expansion of financial derivatives exposes a definite weak spot in official supervisory organization and capabilities. It is far better to move ahead with a comprehensive review of the structure of financial regulation and supervision under these circumstances than to delay and perhaps be subjected to an unforeseen shock later on, a shock that may well be preventable under more modern and resourceful official oversight.

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**Testimony of Eugene H. Rotberg
Before the
U. S. House of Representatives
Committee on Banking, Finance and Urban Affairs
June 23, 1994**

My name is Gene Rotberg. Let me first express my appreciation for being asked to testify with respect to matters dealing with the derivatives markets. I ask to be incorporated into this record remarks I gave recently to the National Association of Corporate Treasurers entitled, "The Only Perfect Hedge is in a Japanese Garden."

A lot has already been written and reported about derivatives: a minority staff report from this committee, Congressional hearings, a GAO study, a Group of Thirty report, a Federal Reserve report and commentaries by virtually every accounting, banking and securities association. There have been press reports of losses by dealers and corporations, lawsuits, investigations and attention by every relevant regulatory agency. For purposes here, let me try to focus on why the subject matter has and will likely cause a great deal of continuing stress. I believe it is a peculiar combination of five unique and potentially dangerous circumstances.

First, derivatives can be used to leverage risk -- interest rate, currency rate, share prices -- without putting up a lot of money. That simply means that during a period of volatility, losses or gains are magnified manyfold. And often the leverage is asymmetrical; that is, the potential gains are limited, while the losses may be multiples of the maximum gain.

Second, current accounting conventions mask error, risk and mistake. They are not designed as risk management tools. They have tax consequences, which may be one of the reasons why it has been so difficult to develop a comprehensive set of conventions which also can be used for risk management purposes.

The truth is we do not, generally, mark derivatives to market. Many derivatives are unmarkable. In certain transactions, mistakes can be hidden because accounting conventions do not record them, either because they are ad hoc or there is no market, or they are off balance sheet. There is, too often, little reality testing. We continue to pretend that a rolling loan gathers no loss. We pretend that if a triggering event occurs in a different time period, the loss

EUGENE H. ROTBERG served for 11 years at the SEC as Associate Director for Trading and Markets and a member of the Special Study of Securities Markets. Thereafter, for 19 years, he served as Vice President and Treasurer of the World Bank, responsible for the financing of that institution and the investments of its liquid assets. From 1987 to 1990, he was Executive Vice President of Merrill Lynch & Co., Inc., with responsibility to devise a system for monitoring, controlling and managing the market risks to which the firm was subject in the fixed income and currency markets. Mr. Rotberg now advises governments, international institutions and financial institutions on matters dealing with interest rate and exchange rate volatility, the development of capital markets, investment in emerging country markets, and overall financial policy.

can be delayed. And when losses can be ignored, greater risks are taken. The latest FASB proposed draft on derivative accounting is a beginning, but the draft is deficient because it will not, yet, put the users under the pressure involuntarily of admitting to failure, risk and error. I think the response to the latest FASB draft will illustrate the point.

Third, senior managers are rarely as informed as traders, and legislation is not likely to make them so. Typically, senior management is usually unaware of the technical operations of financial engineering. Worse, they are often afraid to ask, out of concern of admitting to their lack of mastery over the subject matters, and I think we also must admit to the fact that there is a good deal of underlying hostility to financial superstars, mathematicians, physicists. Senior management often believe the financial engineers are too young; too overpaid; they have too much control; they are too smart; they know what to hide and, too often, how to hide what they are doing and why they are doing it. Management is not trained in the intricacies of convexity or volatility. As a result, reports are inadequate, supervision thin. Risk management leaves a lot to be desired. Worse, most of us have great difficulty in admitting to those who report to us that we do not know nearly as much as they. That is a recipe for potential disaster. The good news is that senior management is becoming aware of what they don't know. In the Group of Thirty study recently completed, 57% of senior managers had serious or some concern over their risk management systems; 71% over the complexity of their derivative products; 89% over the illiquidity of certain products. On the other hand, for multinational corporations, the correct timing of a move in the foreign exchange markets can do wonders for a fall-off in sales.

Fourth, many products, particularly over-the-counter derivatives and aspects of the mortgaged-backed market are idiosyncratic, ad hoc, unpublicized, illiquid. That means they are difficult, if not impossible, to price or value. It means that if held as collateral, there may be no buyers in the event of a forced sale, or the spreads between buyers and sellers may be so wide that even hedges are ineffective. That means that a bank dealer which holds such instruments may have to sell short instead, say, plain vanilla U.S. Government bonds in very large amounts to protect itself. That complicates the Federal Reserve responsibilities.

Fifth, the relationship between the banker and the other side is typically unclear, at best, and possibly adversarial. Is the other side of the bank dealer a client, or a customer, or a beneficiary, or an adversary. What is the responsibility and practice to provide stress modelling scenarios to the "other side." Is the banker hedged or is he betting the opposite way from the end user. Whatever the obligation of disclosure, it is clear the end user rarely asks. It should.

Eight years ago, in a speech entitled, "Be on Guard in the Glittery World of Financial Innovation," I wrote:

"Many new instruments have developed because of peer pressure; they are poorly priced with little academic or market rationale. Most innovations have uncertain economic benefit -- they typically involve a sharing of unknown risks for unknown benefit at a price which is simply market clearing. There also is a bit of the "herd" instinct -- by intermediaries, issuers and investors. There is

competitive pressure to simply execute the latest instrument for a client or to create the next one, whether or not it makes sense, simply because it is market clearing at a cost which appears low compared to some other benchmark...

Senior managers and their regulators will find it a challenge -- to say the least -- to find out what is going on and whether it makes sense. But unfortunately, I suspect, wisdom ex post will likely be measured by an accounting convention."

Little has changed.

Sigmund Freud would have been a wonderful witness here. He would have explained the use of derivatives as denial and rationalization -- the pretense that we are doing one thing when we really mean to do something else; the relationship between the banker and its client as one of ambivalence and reliance on the father figure; the use of accounting conventions as repression and the absence of reality testing; the work environment as the pleasure/pain principle -- current pleasure for future damage, let someone else pick up the pieces; leveraging and doubling our bets as counterphobic behavior; termination therapy as what happens when the CFO and Treasurer get caught; and of course, transference -- how the trader seeks to shift responsibility to his or her superior when the string runs out.

With respect to H.R. 4503, I have the following suggestions:

1. **Page 6, line 23.** Add margin requirements as a subject to be covered.
2. **Page 7, line 21.** The language is quite soft. You might wish to consider providing the regulatory authorities the "power to implement" regulations, not merely make recommendations (to whom?) with respect to the subject matters on Pages 8 and 9.
3. **Pages 10 and 11.** All references to "revenue gains and losses" might explicitly include the phrase, "whether or not realized."
4. **Pages 29 and 30.** The term "speculation" should be avoided in the Bill. Any financial decision is "speculative." Alternatively, you might wish to consider using the term "leveraged" where appropriate.
5. Finally, I would suggest that the study of margin and collateral be the responsibility of the Federal Reserve Board.

* * *

This brings me to my final point and, to my own mind, the most important. We have enough essays, surveys, studies, green books, Basle guidelines, international studies about credit risk,

basis risk, legal risk, event risk, operational risk. They are all fine and so will be future ones - whether mandated by legislation or done voluntarily. But they all read like a cross between graduate school theses, at best, and a public policy consultant's think-piece. We are writing essays without really knowing, in a systematic fashion, how the market works. We need far more precise day-to-day market information on who does what; how is it financed; how do bankers and dealers pass on their risks; how is leverage actually accomplished, etc.

The time is now, I suggest, for a "Special Study," under oath, with subpoena power, conducted independently, reporting directly to Congress, with such commentary by the Federal Reserve, Treasury, Comptroller of the Currency, SEC, CFTC, and anyone else who would like to comment on the ultimate analyses and conclusions of the Study.

The Chairman of the SEC and Chairwoman-Designate of the CFTC should designate a Director of the Study and then let that Director staff the Study -- with subpoena power. We will not find out how the market really works without such a Study. Why subpoena power? Let me remind this Committee that at the time of the Salomon Brothers affair almost three years ago, which had many of the elements of the subject now being looked at, no securities firm would voluntarily testify about their operations in the REPO and government securities market. Nor will they do so fully and frankly about derivatives in response to a letter from the Secretary of Treasury or the Chairman of the Federal Reserve.

They will under oath. And that is the way to develop a body of knowledge in this particular area. The alternative is to rely on Grand Juries, SEC investigations after the fact, class action lawsuits and surveys.

Three years ago, in Senate hearings on the operations of the government securities market in connection with the Salomon Brothers affair, I testified:

"Finally, I would urge a major inquiry -- not an adversarial investigation -- into the operations of the securities markets (including the government securities markets and those of derivative products and financing) similar to the Special Study of Securities Markets conducted in the early 1960s which reported directly to Congress."

I can only repeat the same recommendation here, but this time note, merely by way of example, five matters, almost chosen at random, which have not yet really been publicized, and which are indicative of what we don't know about -- except in the most superficial and uncoordinated fashion.

1. U.S. federal agencies issue structured finance paper in which the agency obtains a lower cost than a "straight vanilla" issue, but somewhere down the line, after the agency has hedged its risk, a small, rather unsophisticated S&L or a pension fund (the buyer of the paper), in return for a pick-up in yield, may end up with a zero return over time if yields rise because of an imbedded option (whose value is very difficult to quantify) which

works to the buyer's disadvantage. What is the issuer's responsibility? The banker's who sold it? What is the instrument's liquidity? S&Ls will, yet again, be at risk. While there is no real credit risk (these are AAA issuers and exempt securities), there is a lot of asymmetrical leveraged market risk taken by institutions whose deposits are guaranteed by federal authority, but who are putting not credit sensitive paper on their books, but complex and illiquid products whose value will sharply erode in response to changes in interest rates.

2. The effects of illiquid collateral, particularly in the mortgaged-backed market, and its effect on the U.S. government bond market when small changes in interest rates are magnified when the collateral can't be sold and, instead, the U.S. government bond market absorbs the selling pressure as financial intermediaries seek to protect themselves.
3. Equity swap positions of banks. To what extent are banks, through the use of derivative products, taking substantial positions in the stock markets domestically and/or in foreign stock markets with the explicit currency risk?
4. The practice and implications of end-of-month or quarterly cleaning up of derivative portfolios in order to avoid disclosure.
5. The use of derivatives in the FOREX market and its implications for public policy, government intervention and the maintenance of stable exchange rates.

These matters get too close to the edge of propriety or legality to expect voluntary disclosure to form letters.

Does this all mean that there is great systemic risk? No. Or that major banks or corporations are likely to tumble in a domino effect? No. Will some be badly hurt? Yes. Are some S&Ls, securities dealers and corporations taking imprudent risks? Yes. It means mostly, though, that regulators are not up to date because they do not have up-to-date quality information about what is really going on in the market -- and when they do get it, it is after the fact, ad hoc, in a criminal investigatory setting, which rarely predicts the next financial crisis.

Thank you.

The Only Perfect Hedge is in a Japanese Garden
by Eugene H. Rotberg
Remarks Prepared for
National Association of Corporate Treasurers
May 19, 1994

I have been given a lot of advice about my remarks this afternoon: keep it light, but serious; don't talk too much about regression analyses and dynamic hedging, but make sure that you cover all of the risks implicit in financial engineering; make it relevant, but not too specific, and, of course, start off with a joke or funny story. I am particularly puzzled by the last admonition. I can think of nothing funny to say about derivatives, convexity, volatility, swaptions, floortions, inverse floaters, and the rest. After all, a subject which lends itself to Congressional hearings and a 900-page report, a new FASB exposure draft, a General Accounting Office report (issued but yesterday), an analysis by the Group of Thirty, and apocalyptic visions of the future, not to forget law suits between corporate clients and their bankers, write-downs approaching a magnitude equalling the write-offs occasioned by downsizing and restructuring, is not one which lends itself to a Robin Williams monologue.

I thought, instead, about the parallels between the world of derivatives and psychoanalytic theory. Indeed, what better product than derivatives to show how we react to pain and pleasure and meet our insatiable need to fool ourselves. Let me be specific: my remarks today are about five or six related matters: (1) Know the reasons for using derivative products, or financial engineering. I can think of no better paradigm than the use of denial and the process of rationalization -- the pretense that we are doing one thing when we really mean to be doing something else. (2) The basic conflict between the corporate end user and its banker, whom the client relies on to provide wisdom and guidance. What better example than the father figure, the resentment over his accomplishments and his materialism. (3) The use of accounting conventions and their irrelevance to financial risk management -- a classic example of reality testing and repression. (4) The work environment and the bureaucratic setting in which we conduct our financial operations. It is living proof of the pleasure/pain principal and the use of reward and punishment as a motivating tool. And what about counterphobic behavior in response to loss -- maybe we should double our bets -- in response to the first loss. (5) The pitfalls and the risks attendant to the world of financial engineering, and (6) What to do about it and how to manage risk -- the last, a textbook example of the behaviorists' use of desensitizing -- or dynamic hedging to get you comfortable with fear and anxiety. Finally, of course, termination therapy and transference. The former, termination, is what the CEO will ultimately do to the financial staff if the derivatives do not work out; the latter, transference, is how the treasurer subtly moves the risk to his or her boss.

EUGENE H. ROTBERG was formerly Vice President and Treasurer of the World Bank. He currently is an advisor to governments and international financial institutions.

But I could not decide whether this literary conceit was 90% jest and 10% serious, or whether it was 90% serious and 10% jest, which in turn, would determine the tone of these remarks. So, instead, let me just take these subject matters and talk to you about them informally, for all I can really do, basically, is share with you some observations about my own experiences about risk and the work environment and hope that they might be relevant to your own experience. But first, I think some background is in order. Why are we here discussing this stuff? What was the environment which prompted the use of derivatives and, more generally, financial engineering?

The Background

- Floating exchange rates. At first the world was fixed. Then the Yen, for example, went from 360 to the dollar to 300 to 240 to 200 to 300 to 120 to 100 -- with many changes of direction in between. That volatility, which occurred in many currencies, created the incentive to speculate on potential exchange rate movements -- or if possible, to cause them. That, in turn, led to market risk and a proliferation of products for protection and for speculation.
- Volatile interest rates. In the U.S., long-term interest moved one percent in the period 1955-1965. Since then, long-term rates have moved from 7% to 15%, down to 8%, rose to 12%, down to 6-1/2%. Short-term dollar rates have similarly fluctuated between 3% and 20% and everywhere in between. That kind of volatility also has led to the potential for profit by speculation or hedging interest rate movements.
- Lowest common denominator regulatory and supervisory controls. If a financial intermediary could not offer particular services because national controls were too demanding, it moved its operation to a more accommodating, less intrusive domicile.
- Communications. That let everyone know what all market participants -- end users, intermediaries and the rest -- were doing and seeing at the same time. That, in turn, narrowed spreads between buyers and sellers. However, the efficiency of the information flow increased volatility because high levels of volume become destabilizing when markets are responding to the same information. The increased liquidity, a natural consequence of the number and capital of the players, therefore, did not reduce volatility given the immediacy of the information flow; it increased it.
- An accommodating accounting system. That permitted failure and risk to stay undisclosed because of the practice of not marking assets to market -- despite their depreciating value.
- Securitization. That meant if you could sell an asset after putting it on your books, you need not worry about credit quality. Someone else would pick up the pieces. Securitization and the prospects for immediate liquidity damaged the normal attention to prudential credit assessment.

- Finally, financial engineering. It gave great advantage to first users. But it was easily imitated by others. Even the most sophisticated products are now replicable because of broad skills, communications and information technology. Arbitrage opportunities, once quickly identified, then disappeared. But more important, the products were, and are, increasingly complex, leveraged, not readily understood by managers or regulators, or end users. Moreover, they are off balance sheet, which means that they were, and are, for the most part, "unrecorded," with uncertain, or sometimes unknowable, risk -- clearly not readily subject to capital requirements or risk management systems.

It is with that background that I come to my first point: We must admit openly and honestly why we are using derivative products or, indeed, any form of financial engineering. You may think the cliché is obvious, but I suspect that it is not so. For example, a dealer or bank may be in the business of financial engineering for a variety of reasons:

1. To profit from the spread between the end users of a liquid derivative product. The trader takes no risk and hopes the spread is wide enough to sustain a market making or agency interest.
2. A financial intermediary may wish to take on a speculative position. Usually it is quite leveraged. Often, on the other side of the transaction is an end user -- a corporation, or perhaps a pension fund or insurance company. The dealer simply believes that it can predict better than the non-professional the movement of interest rates, exchange rates, market indices, share or commodity prices, etc.
3. Or, a dealer may be in the business simply of taking advantage of imperfections in the marketplace. It believes that it can identify those aberrations, totally hedge its own position, and through leverage, make a great deal of money. Those aberrations, however, increasingly have become difficult to come by and only can occur when either the information systems or the counterparty is less sophisticated than the dealer.
4. A financial intermediary may be in the business of servicing a client, and that, in turn, may either be in an adversarial or supportive way. You are that client. You should hope that you are not merely a customer. There is a difference. I will talk more about that issue in a few moments.
5. Or, a financial intermediary may be acting solely as agent for a fee -- a commission, if you will -- to bring you a product which you believe you need in order to conduct your business affairs.

From the point of view of a financial services company -- a bank, a securities firm -- it is, as you can imagine, quite important for them to know which lines of business they are in. Too often, after an unhappy or unprofitable event, they engage in a kind of historical revisionism and argue that their objective was quite different from what it appeared to be; that they weren't really speculating; that it was a client's idea in the first place, that they were merely servicing

the client need; or that it was a loss leader; or that they thought they were hedged. Those in the business of finance too often shift their objectives after an unhappy event in order to rationalize why they did what they did.

Of those of you in this room, though, few are financial intermediaries. But, you, too, must know why you are engaged in financial engineering. There are four quite fundamental issues:

1. Are you, or are you not, using derivatives as a means of speculating on an unknown in the future by taking either a long or short position -- betting on the movement of a commodity, interest rates, exchange rates, an index, rainfall, etc. In effect, are you operating in the market in a manner beyond what you need to do to immunize yourself from future uncertainty. There is nothing intrinsically wrong with it -- speculating -- but you must know whether or not you are only trying to hedge a contractual cash flow, or an asset, or liability against future uncertainty. It is not a simple determination. Indeed, even issuing a floating rate versus a fixed rate, or borrowing now versus later, is "speculating" on the future in a quite real sense. The decision to "hedge" that transaction simply means that you are unsure about whether the future will make you look bad.
2. If you are using derivatives for the purpose of reducing or eliminating future uncertainty -- hedging -- you might ask a further question: what is the precise cost of doing so, just as you would ask the up-front cost and the present value of paying an insurance premium against a fire burning down your plant and facilities. And you must know, also, that the only perfect hedge is in a Japanese garden.
3. For each hedge, you must evaluate the cost of not hedging, and, more important, evaluate alternative ways of getting the same result through some other means. We must do this, I would suggest, even if some techniques produce a visible articulated expense while others, because of the nature of accounting systems, do not articulate or record the cost, but which may in fact be less economically costly.
4. Finally, I think it is important to have a rather precise sense of your authority and responsibilities: whether you are in the posture of convincing the CFO and CEO, for one reason or another, that you should be a profit center in the accounting sense, whether you have had that burden thrust upon you; what is your responsibility to your Board, the CFO, etc. But I will say more about that later.

Before going on, let me give you one example of how one issuer, the World Bank, uses a rather straightforward product -- swaps -- and other derivative products to manage the liability side of its balance sheet, which has over \$100 billion of fixed rate, medium term debt denominated in over 20 currencies:

1. To change the currency of a specific borrowing. Its use of the swap market and its comparative advantage often permits it to access one currency and simultaneously swap it for another targeted currency at a lower cost than a direct borrowing.

2. It converts floating rate borrowings, where it is highly competitive because of its credit standing, into fixed rate borrowings at a lower cost than its direct access to the fixed rate market.
3. It separates the fixing of interest rates on a note issue from the timing of the issue. At times the opportune moment for accessing the capital markets (in terms of, say, spreads over U.S. Treasuries) is not necessarily the best moment to lock-in the specific rate level. The use of derivatives can separate, therefore, the timing of the issue from the actual fixing of the interest rate and, through deferred rate settings, spread the rates over different times -- perhaps a year in the future.
4. The Bank imbeds in derivative products call features and sinking fund options which provide it with the right, at no cost, to retire debt. Or, in a more complex operation, it issues "structured" notes which provide the buyer an interest or exchange rate play. The Bank, however, simultaneously, hedges itself against the option given to the buyer and ends up with all-in savings relative to a direct, so-called plain vanilla borrowing.
5. Finally, the Bank shifts, from time to time, minor portions of its existing stock of debt from one currency to another based on cost and risk considerations. Whatever the ultimate currency composition of the Bank liabilities (and its policies are designed to make that composition predictable and certain), the currency risk is taken by its borrowers. And that you cannot pass on to your customers. That, by the way, is why it is so important to know who you are and what you are trying to do.

That brings me to my second point: the relationship, perhaps potential conflict, between the banker and the client. It does not much matter here, for purposes of my remarks, whether you have chosen to hedge or speculate on a future unknown development, whether you are leveraged or not, or whether you know the up-front costs, the alternative costs, or even the potential opportunity cost of your activity. In any event, you must determine whether your banker/dealer treats you as a fiduciary would treat its beneficiary, or whether you are a client, or whether you are merely a customer. I would suggest that one way to determine the nature of that relationship might be to determine the nature of your banker's compensation, whether its profitability is uncertain or fixed, whether its risk is hedged or not hedged, and the structure of the transaction as it appears to your banker. You also might want to determine if there is a lack of symmetry between what you are buying and what the counterparty is selling, and why the transaction makes sense from both sides. That will go a long way to reducing your risk because, ultimately, you will find yourself asking questions which will not only tell you the economic risk distance between you and your counterparty, but more important, tell you whether or not you alone have an open-ended risk. If you do, that should prompt caution.

You may, of course, have asked that your banker provide you with a vehicle to hedge or speculate, say, on interest rates or exchange rates or commodities or share prices. But, some products are more costly than others and have all kinds of open-ended provisions to either enhance profit and/or reduce losses. They should be explored. But, most important, if you are

buying a product from a banker, structured for you, on which the banker is on the other side, remember that you are in the business of selling automobiles or paper products, or of manufacturing, of planting, of harvesting, of providing services, of developing technology, etc. On the other side of your transaction, there is someone in the financial services industry whose business is to earn a return on capital by predicting interest rates and exchange rates. If there is, exercise caution. You are in their business. It, too, is not a long term recipe for success - particularly if your professional counterparty is unhedged.

Now it could be that on the other side of your transaction is a fellow corporate treasurer and the financial firm is simply servicing the accounts. But even if that is the case, you should ask why it isn't on one side or the other. The answer, of course, is that it would rather take the fee, not the market position, yet you both are taking the latter. But again, I do not want to preempt your desire to speculate in the world of finance. But know that the father figure, your investment banker, probably did not become rich and successful by doing what you are doing. They did so either by being on the opposite side of your financial decisions, or by being neutral.

Third, let me talk a little about the seduction of accounting conventions. We do not measure opportunities lost. We, generally, do not mark to market. Many of the products are unmarkable. In certain transactions mistakes can be hidden because accounting conventions do not record them, either because they are ad hoc or there is no market, or they are off balance sheet. There is, too often, little reality testing. We continue to pretend that a rolling loan gathers no loss. We pretend that if it a triggering event occurs in a different time period, the loss can be ignored or delayed. And when losses can be ignored, greater risks are taken. I cannot take the time here to describe the latest FASB proposed draft on derivative accounting - they are a beginning, but they are deficient -- because they will not, yet, put you under the pressure involuntarily of admitting to failure, risk and error.

Accounting conventions are, to a great extent, grounded in tax implications and, to a lesser extent, disclosure. But disclosure does not yet require adverse scenario simulations -- particularly of illiquid products, which are off balance sheet and whose status may be embodied in a piece of paper which reads as follows: "I promise to pay you, five years from today, quarterly for a period of five years thereafter, 50% of the interest rate differential over 7% in the London Inter Bank market." No model can tell you what is your risk on that transaction. No accounting convention requires disclosure, nor is any proposed -- particularly if it is embedded in a piece of structured finance where, in return for making that promise, you paid 2% less than current market for your latest note issue.

That brings me to my fourth point: the work environment. Many of you are subject to a rather difficult environment -- one which tests your managerial and survival skills considerably.

The code words are financial engineering and innovation. But the human psyche, and certainly the bureaucratic setting in which we carry out our transactions, have not changed. There remains how we cope and how we make decisions in a competitive world:

1. We respond to peer pressure. Develop and then sell that magic zero coupon bond with a perpetual maturity so a borrower needs pay neither interest nor principal.
2. We want to capture rewards quickly and visibly so we can look good if we can't be good.
3. We deny blame or responsibility. We seek not to be identified as the provider of unwisdom.
4. We do not measure opportunities lost.
5. We rely on sympathetic accounting conventions. We need not show losses until we sell.
6. We design performance measures to cover-up error. They are called benchmarks.
7. Senior management is rarely as informed as operational managers.
8. We make decisions based on: Will we be found out? Discovered? Identified as the wrongdoer? The recommender of unwisdom? Will we be hassled? By peers, superiors, the bureaucracy. Do we really want to have to explain this stuff to someone who spent his life in sales or marketing?
9. We are subject to the herd instinct. If we get really good at it, maybe we can become investment bankers.
10. Leverage is fun.
11. Present pleasure -- future pain: someone else will pick up the pieces.

Whatever else one can say about these pressures, it inhibits rational thought about interest rates. It is an environment which makes it all the more difficult to articulate the objectives that I have talked about earlier. The difficulties also are compounded by the fact that senior corporate management is usually quite unaware of the technical operations in financial engineering. They rarely have had experience or training in the world of finance. Worse, they are often afraid to ask, out of concern of admitting to their lack of mastery over the subject matters, and, of course, they are also preoccupied by accounting conventions.

I think we also must admit to the fact that there is a good deal of underlying hostility to financial engineers. We believe they are too young; too overpaid; they have too much control; they are too smart; and they know what to hide and, too often, how to hide what they are doing and why they are doing it. This attitude is endemic not just in the financial services industry, but is probably even worse in the corporate/industrial/agricultural sector where middle management is not trained in the intricacies of convexity or volatility, or the abstractions of financial engineering. As a result, reports are inadequate, supervision thin. Risk management leaves a

lot to be desired. Most of us have great difficulty in admitting to those who report to us that we do not know nearly as much as they. That, too, is a recipe for potential disaster.

In some companies, certainly not here, financial management finds itself, if the truth be known, somewhat titillated by the fun or the competitive pressure to execute the latest exotic instrument simply because it is market clearing at a cost which appears low compared to some benchmark. Sometimes, too, there are pressures for the financial operations to make up for, as a profit center, the shortfalls in the main line business. That responsibility is sometimes initiated voluntarily in an effort to show that the corporate treasurer/CFO does not merely publish accounting statements and issue commercial paper, but is intimately involved in determining whether or not the company makes a profit and a yet higher return on its equity. For multinational corporations, the correct timing of a move in the foreign exchange markets can do wonders to offset a fall-off on sales. I mention these points simply because directors and shareholders are increasingly becoming aware of the risks of such activity.

This brings me to my next point: What are the pitfalls, or risks in the derivative markets? Time does not permit a detailed description of what can go wrong. I can here only list the main ones:

1. **Liquidity Risk.** You think you are precisely hedged, but the product is so esoteric and idiosyncratic that you cannot sell it because there is simply no market for the product. This, typically, will happen on the asset side, where you may want to either capture a profit or minimize a loss or sell collateral, and you can find no buyers. This is typical in the OTC derivative market or parts of the mortgage-backed securities market.
2. **Credit Risk.** Your counterparty has lost money and fails. You were on the right side of the market, unfortunately, your counterparty was on the wrong side. Or, your counterparty would ordinarily be just fine, but its counterparties, strangers to you, default.
3. **Legal Risk.** The laws in Asia and Western Europe are not nearly as clear as those in the United States (and even these are not without doubt). You believe that you are totally netted with a particular counterparty; that you had a net zero position and, in the event of default and bankruptcy, you would be protected. It turns out that the netting rules outside the United States are ambiguous, and you may have to get in line with other creditors or depositors.
4. **Event Risk.** A war takes place; an earthquake occurs; a flood of a magnitude not seen in a hundred years washes over the land; a cartel falls apart; oil prices quadruple; tax laws change, and the market in which you were speculating, or even hedged, moves in a magnitude not only unforeseen, but totally outside past models. They always do. You are in trouble.
5. **Basis Risk.** You thought you were hedged. You believed that investment A hedged

instrument B. You were long in one, short in the other. They, in fact, moved in the same direction. The three-year Treasury note in which you were long deteriorated in price, but unhappily, the five-year note, in which you had a short position, increased in price. You lost both ways. Again, the only perfect hedge is in a Japanese garden.

6. **Leverage Risk.** You are so leveraged that even a small market movement will prompt a margin call or liquidation. The security which is out of line will move back to its normal position on the yield curve, but someone out there, for one reason or another, has chosen to put pressure on a particular coupon, a particular security, at a particular point on the yield curve, and while over the next week or two it will surely come back into line, in the meantime, you must liquidate. Then your loss becomes visible.
7. **Operational Risk.** Back-office systems, yours or someone else's, fall apart; credit monitoring systems break down; documentation is flawed; transcription and recording mistakes are made; settlements are delayed; systems do not capture fully the nature of the transaction -- the computer program doesn't yet cover that kind of transaction (they are working on it). And, it is all quite expensive to put in place and keep it up to date. And, most important, there is no natural constituency to support the financial and resource expenditures that are needed, particularly if you are not supposed to be a profit center and are trying to keep quiet the risks you are taking.

Let me conclude with a summary of what one might do. It is based only upon my own experience and observation of others. It is not complicated, as a matter of basic principles, but not so easy to put into practice. (I have written in detail elsewhere about the technical aspects of a risk monitoring system.) But, perhaps, these basic principles may provide some guidelines or foundations for risk management. I will just list them here:

- Know what the risks are.
- Know the costs, the premium, the present value outlay for protection.
- Admit what you don't know.
- Ask "what if." Quantify "what if."
- Clarify precisely what you are trying to do.
- Ignore accounting conventions. They are not useful risk management tools; they are designed to make your life easier and comfortable.
- Always measure opportunities lost.
- Never penalize those who work for you for mistakes or reward them for being right about markets. It will go to their heads or be counterproductive, and in any event,

material compensation will not correlate with their ability to predict the future next time.

- Ask for alternative approaches and costs to meet your objectives.
- Spend resources on systems and people smarter than you are.
- Talk to them.
- Do not hire or maintain staff whose ethics are such that you would not want them to marry your son or daughter.
- Try and figure out why the transaction makes sense to your counterparty end user. Understand both sides of the transaction.
- Fully understand the role, risk, and profit of your financial adviser/banker.
- Be modest, admit to vulnerability, unsuredness and uncertainty.

Thank you.

**STATEMENT OF DENNIS R. BERESFORD, CHAIRMAN
FINANCIAL ACCOUNTING STANDARDS BOARD
TO THE
HOUSE COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS
JUNE 23, 1994**

Mr. Chairman, Members of the Committee, my name is Denny Beresford. I am the Chairman of the Financial Accounting Standards Board. With me today is Halsey Bullen, who is a project manager on our technical staff. Mr. Bullen has been involved with our project on accounting for financial instruments since we began work on it several years ago.

We have provided the Committee with a detailed submission in response to the questions raised in your June 8 letter. Our detailed submission also summarizes the accounting and disclosure problems posed by derivative financial instruments and the history of our broad project on financial instruments. In these remarks, I would like to touch on some key points from the detailed submission.

The FASB has been working on accounting for financial instruments as a formal project since 1986. We studied the problem for some time before that. Our Emerging Issues Task Force, formed in 1984 largely to respond quickly to narrow issues in areas in which the Board has not yet issued broad standards, has addressed well over 100 issues involving accounting for financial instruments and financial institutions. Much of the information about derivative financial instruments now in the hands of financial statement users is a direct result of accounting standards we issued in 1990 and 1991.

Our Discussion Memorandums and Research Reports are recognized around the world as the best and most comprehensive materials available on the accounting implications of financial instruments. We meet regularly with our counterparts in other countries and with the International Accounting Standards Committee, who have followed our lead and are now wrestling with these same issues.

Much has been said recently about how accounting standards have failed to keep pace with the challenges presented by new and innovative financial instruments. We acknowledge that and we have been striving to meet those challenges. But we will always be a bit behind. It is the nature of our role that we learn about new and innovative financial instruments **after** they have been designed and implemented. It is the nature of our open due process procedures that changes in accounting standards occur only after thorough deliberation, which sometimes takes longer than we might like. On balance, however, our very careful due process results in better, and better-accepted, standards with fewer unintended consequences, and I wouldn't change it.

I also would observe that there are few unanimous views about the "right" response to the accounting challenge of innovative financial instruments. Throughout the process some organizations, like the Securities and Exchange Commission and the General Accounting Office, have chided us to move faster. But almost every step we have taken has prompted vociferous opposition. A small sample of that opposition is included in our written submission.

Our recent Exposure Draft on disclosure about derivative financial instruments grew out of a widening gap between businesses' increasing use of derivatives on one hand and financial statement users' lack of understanding of those instruments on the other. Even sophisticated financial statement users have described themselves as "confounded" or "mystified." No one profits from that situation. Financial statement users who can't understand what a company is doing tend to paint sound business practices and wild speculation with the same brush.

Our own review revealed that disclosures are less informative than we had hoped. In December 1993, we decided that further improvements were necessary, sooner rather than later. Our current Exposure Draft is an attempt to demystify the way businesses use derivative financial instruments and to improve some existing disclosures. We believe that it is important to include these disclosures in 1994 financial statements, at least for larger institutions. Meeting that goal constrains us from proposing requirements that would take us longer to develop and take institutions longer to adopt.

For derivative instruments held or issued for trading, our Exposure Draft would require disclosure of quantitative information about average, maximum, and minimum aggregate fair values and of net trading gains and losses. For derivative instruments held or issued for risk management or other purposes, our Exposure Draft would extend and clarify the quantitative information already disclosed, require descriptive information about the entity's purposes for using derivatives, and require information about how the entity accounts for derivative instruments. Our Exposure Draft would encourage, but not require, quantitative information about interest rate and other market risks of derivative financial instruments, and other assets and liabilities, that is consistent with the way the entity manages or adjusts risks.

Chairman Gonzalez's letter also asks that we comment on the merits of requiring fair value reporting of derivative financial instruments. Financial **reporting** includes both recording amounts in financial statements and disclosing additional information in footnotes, and accountants look at those separately. Financial statement footnotes already include considerable information about the fair value of those instruments, as required by FASB Statement No. 107, *Disclosures about Fair Value of Financial Instruments*. Improving that disclosure is one of our objectives for the current Exposure Draft.

STATEMENT OF DENNIS R. BERESFORD, CHAIRMAN

The General Accounting Office and others have urged us to consider a broader use of fair value to measure amounts recognized on the balance sheet, as opposed to only disclosing that information in footnotes. Many financial instruments, including some derivative instruments, are already accounted for at fair value. Our written submission describes the conceptual and practical difficulties, as well as the vocal opposition, involved in a broader application of fair value on the balance sheet.

As a practical matter, the question is not whether to use fair value, but rather which assets and liabilities should be reported at fair value and in which circumstances. Financial statements currently are based on an approach in which some assets are measured at fair value, some at historical cost, and some at the lower of the two. Broader use of fair value for amounts recognized on the balance sheet will inevitably be a consideration in every financial instrument issue we consider. But a comprehensive system based on fair value accounting is not likely in the near future.

The Board currently is considering a number of approaches that would address both the accounting for derivatives and hedge accounting. All of those approaches would require reporting derivative financial instruments at fair value. In recent months, we have been exploring a promising approach that would begin by recognizing all derivative instruments and measuring them in balance sheets at their fair values, as the General Accounting Office recommends. However, it would produce different income statement effects than the method recommended by the GAO. The Board is continuing to discuss the details of this proposal. While several knotty problems remain to be resolved, we currently hope to issue an exposure draft by the end of 1994.

Chairman Gonzalez's letter also asks that we provide our views on H.R. 4503. Our principal responsibility is setting standards for accounting and reporting in general-purpose external financial reporting to investors, creditors, and others. That reporting sometimes differs from the reports that insured financial institutions are required to file with Federal banking, credit union, or other agencies, which are the main subject of the Bill, although the two reporting areas are related and the trend has been to reduce the differences. We are hesitant to make recommendations about regulatory accounting and reporting matters because that is not our jurisdiction and it is not an area in which we have special competence. But I offer one suggestion.

Many of the specific disclosures in the Bill resemble existing and proposed FASB requirements and we have no reason to question their current relevance. However, we are

concerned that establishing such specific disclosures in a statute is unlikely to stand the test of time. Our disclosure Exposure Draft is in the midst of a comment period. It is virtually certain, based on our experience, that we will make at least some changes before a final Statement is issued. Furthermore, the derivatives market continues to evolve at a rapid pace, with new instruments and new twists on old instruments appearing constantly. What was once important information is no longer important, and vice versa.

One recent problem illustrates our point. The Bill would require disclosure of gross notional values of each class of derivative. That provides some information about the extent of price risk an entity faces from its derivatives, and it mirrors an existing FASB requirement that our Exposure Draft would extend to all derivatives. But the price risks of a new type of instrument that has emerged in recent weeks would not be fully revealed by such requirements. That instrument is a "leveraged swap" or "structured note" of modest notional principal but with multipliers that give it the price risk of an instrument with 10 or even 100 times the notional principal amount.

With that kind of problem in mind, we suggest that you consider in your Bill a more general set of requirements that convey your concerns but leave room for regulators to adapt to changing conditions.

As a final point, I have not commented on several other matters that may concern members of the Committee, for example, the appropriate role of derivatives in corporate risk management, internal controls over derivatives activities and audits of those controls, and the effects of derivatives on the banking system or the overall economy. Those matters lie outside our area of expertise.

In conclusion, let me outline some important steps that we expect to take in the coming months:

- We plan to issue an accounting standard on disclosures about derivatives in the fall, after we have received and evaluated comment letters on our current Exposure Draft.
- We are hopeful that we will issue a separate Exposure Draft on hedge accounting and the accounting for derivative financial instruments by the end of this year.
- And we continue to work with our counterparts in other countries as they too struggle with the accounting challenges of innovative financial instruments.

Mr. Chairman, that completes my prepared remarks. I would be pleased to answer any questions that you and your colleagues might have.

DISCLOSURE ABOUT DERIVATIVE FINANCIAL INSTRUMENTS

**Testimony before the
Committee on Banking, Finance and Urban Affairs
of the U.S. House of Representatives**

**by Dennis R. Beresford
Chairman, Financial Accounting Standards Board
June 23, 1994**

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The Financial Accounting Standards Board welcomes the opportunity to appear today to testify about H.R. 4503, the "Derivatives Safety and Soundness Supervision Act of 1994" (the "Bill"), our recent Exposure Draft, *Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments* (the "Exposure Draft"), and other matters the Committee may wish to discuss.

Our prepared submission is in three sections. Section one responds to specific inquiries by Chairman Gonzalez in his June 8 letter. Section two discusses the accounting and disclosure problems posed by derivative financial instruments. Section three summarizes the Board's work on financial instruments issues.

SECTION ONE

RESPONSE TO SPECIFIC INQUIRIES

In his letter inviting us to testify, Chairman Gonzalez requested that we summarize our disclosure proposals, discuss the merits of requiring fair value reporting of derivative financial instruments, and provide our views on H.R. 4503. Because we expect that the Committee is also interested in our response to the recommendations in the recent General Accounting Office (GAO) report on derivatives, including market value accounting, we have incorporated that response as well.

The Chairman's letter refers to "your disclosure proposals, with particular attention to the merits of requiring fair value reporting of derivative financial instruments." It is our experience that people attach a variety of meanings to the terms *reporting*, *disclosure*, and *fair value*. We use financial *reporting* to refer broadly to anything contained in financial statements and their accompanying footnotes. Financial reporting can provide information about an item by recognizing it in the balance sheet or income statement¹, measuring the item in a particular way, providing information about the item in footnotes, or some combination of recognition, measurement, and footnote information.

We use *disclosure* to refer to descriptive information that is provided in footnotes. The objective of footnote disclosure is to provide the reader with information necessary to understand and evaluate the financial statements. Footnote disclosure explains the financial statements, describes items not included in the statements, and provides further information, sometimes including other measurements, about items recognized in the statements. For example, most of a bank's loans are recognized in the financial statements and measured based on historical transactions. The bank's financial statement footnotes disclose additional information about the loans, including any concentrations of credit risk and their fair value.

The Board has defined *fair value* as "the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale." Fair value and market value describe the same notion, but market value usually refers to items that trade in well-established markets.

¹A balance sheet and income statement, together with statements of cash flows and stockholders' equity and footnotes comprise a full set of financial statements.

FASB'S EXPOSURE DRAFT ON DISCLOSURE ABOUT DERIVATIVE FINANCIAL INSTRUMENTS

A derivative generally is an instrument whose value is *derived* from the price of some asset or index. The Board's Exposure Draft, *Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments*, (the 1994 Exposure Draft) uses the term *derivative* narrowly to refer to futures, forwards, swaps, and options and other instruments with similar characteristics. Accounting for derivatives is difficult, because of the problems with invisibility, volatility, and measurability, but particularly because of accounting anomalies that are explained in section two. We are working hard to resolve these problems, and have been working on these problems for some time, as detailed in section three. It is hard to predict how these problems will be resolved or how long the effort will take; the complexity of this issue warrants thorough deliberation. We are hopeful that we will issue an Exposure Draft on accounting for all derivatives and hedge accounting by the end of this year. In the interim, we have required certain disclosures and have proposed in the 1994 Exposure Draft to require more disclosures.

Two FASB Statements² currently require some disclosures in notes to financial statements about derivatives by dealers and end-users. An FASB Interpretation³ has resulted in more informative presentation in balance sheets of dealers. Also, a number of larger financial institutions have voluntarily included more extensive and informative disclosures about derivatives in their latest financial statements. However, the resulting disclosures generally are less informative than the Board had hoped. Financial markets are evolving rapidly, becoming more efficient but also more complicated. After weighing those developments the Board decided that further improvements in disclosure about derivative financial instruments are needed, sooner rather than later.

²FASB Statement No. 105, *Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk* (March 1990), and FASB Statement No. 107, *Disclosures about Fair Value of Financial Instruments* (December 1991).

³FASB Interpretation No. 39, *Offsetting of Amounts Related to Certain Contracts* (March 1992).

SECTION ONE

RESPONSE TO SPECIFIC INQUIRIES

Therefore, in December 1993 the Board redirected some of its efforts on financial instruments to making improvements in disclosure about derivative financial instruments and making them in time to affect 1994 financial reporting. After an open meeting with interested constituents and a series of open Board meetings, the Board issued on April 14, 1994 an Exposure Draft of a proposed Statement, *Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments*.

The 1994 Exposure Draft would:

- Extend the requirements of our existing Statement 105 to require disclosures about amounts, nature, and terms of all derivative financial instruments--forward, futures, swap, and option contracts and other financial instruments with similar characteristics. Statement 105 currently covers only instruments with off-balance-sheet risk of accounting loss. The scope of the revised Statement will still exclude commodity contracts and derivatives embedded in other instruments.
- Clarify the disclosures now required by our Statement 107 by requiring reporting entities to (1) separate the fair values of distinct financial instruments of different classes, even instruments that may be considered to be related, for example, by a risk management strategy, (2) report fair values together with the related carrying amounts in a form that makes it clear whether fair values of financial instruments are favorable (assets) or unfavorable (liabilities), and (3) report all fair value information in one location rather than in several pieces spread through the financial statements.
- Require disclosure of the purposes for which derivatives are held or issued by requiring that, in disclosures under Statements 105 and 107 and under this proposed Statement, derivatives be categorized as either held for trading purposes (i.e., dealing or other activity reported in a trading account and measured at fair value) or held for purposes other than trading, such as risk management.
- Require disclosure, for derivatives held for trading purposes, of (1) average, maximum, and minimum fair value balances of derivative positions during the reporting period and (2) net trading gain or loss from derivative trading activities for the period, indicating how they are reported in the income statement.

SECTION ONE

RESPONSE TO SPECIFIC INQUIRIES

- Require disclosure, for derivatives held for purposes other than trading, of: (1) the entity's objectives for holding or issuing the derivatives, the context needed to understand those objectives, and the strategies employed to achieve those objectives (for example, if an objective for a derivative position is keeping a risk arising from the entity's nonderivative assets below a certain level, the context would be a description of those assets and risks, and a strategy might be purchasing put options in a specified proportion to the assets at risk) and (2) how derivatives are reported in the financial statements including accounting policies and where those instruments are reported in statements of financial position and income.
- Require disclosure, for derivatives held for the purposes of hedging anticipated transactions (both firm commitments and forecasted transactions for which there is no firm commitment), of: (1) a description of the anticipated transactions, (2) the amounts of explicitly deferred gains and losses, and (3) the events that result in recognition in earnings of deferred gains and losses and the estimated timing of those events.
- Encourage, but not require, disclosure of quantitative information consistent with the way management measures risk and assesses the extent to which the objectives for holding the derivatives are achieved. That might be (1) more details about current positions and perhaps activity, (2) hypothetical effects on equity or income of changes in market prices, (3) gap analysis, (4) duration, or (5) value at risk, depending on which tools management uses. Those approaches are illustrated in Appendix A of the 1994 Exposure Draft.

Those required disclosures would:

- Apply to all business enterprises and not-for-profit organizations, including small, nonpublic, or nonfinancial institutions.
- Appear in the notes to the financial statements, rather than in supplementary information such as management's discussion and analysis.
- Be effective for financial reports of larger entities for fiscal years ending after December 15, 1994, with a one-year delay for entities with less than \$150 million in total assets.

Comments on the 1994 Exposure Draft are due by July 1, 1994.

SECTION ONE

RESPONSE TO SPECIFIC INQUIRIES

Securities and Exchange Commission (SEC) Chairman Arthur Levitt, said in recent testimony before another committee of the House of Representatives, that the 1994 Exposure Draft "is a good first step," but observed that "in the event the final FASB standard on derivatives disclosure does not require end-users to disclose quantitative/numerical information about their derivative contracts or positions, as I hope it will, the Commission will develop its own guidance on the type of quantitative information needed to inform investors adequately."

The Board raised the possibility of requiring those disclosures as an issue for comment but proposed only to encourage, rather than require, those disclosures. We remain concerned that the possible approaches to disclosing quantitative information are not well defined, well understood, or easily explained or calculated, and that each appears to have some shortcomings. Risk management is a rapidly evolving area--the tools generally used a few years ago now seem dangerously antique to the most advanced practitioners and the Board is reluctant to require reporting of data that may soon be criticized as passé or even misleading. The Board can undoubtedly develop appropriate quantitative disclosures about the risks of derivatives given appropriate research and outside assistance, and it could do so in resolving the accounting issues. But it cannot achieve that in time to meet its objective of improving disclosure about derivatives in 1994.

We also are concerned about the costs imposed by our pronouncements and about corporations' ability to implement them. One of the overriding objectives in this project was to improve disclosure in 1994 financial statements. That constrains us from requiring disclosures that might oblige companies to incur major costs in a rush to comply with a document that we do not expect to issue until the fall of 1994.

IS FAIR VALUE ACCOUNTING THE ANSWER FOR DERIVATIVES?

Faced with the complexity of modern derivative financial instruments, some commentators have concluded that footnote disclosure of fair values is not sufficient and that accounting recognition and measurement should shift to reporting all financial assets and liabilities in the balance sheet at their current fair values, with resulting gains or losses being reported in income. Their suggestions meet with strong resistance from many financial statement preparers and others who decry any move that they see as abandoning tried and true principles of historical cost accounting.⁴

While the current accounting system is often described as a "historical cost" model, financial statements use a variety of measurement attributes for different assets and liabilities. Some items, like securities held for trading purposes, are always reported at fair value. Others, like plant and equipment, are reported based on historical transaction prices, adjusted for depreciation. Still others, like inventories, are reported at the lower of historical cost or current market value. The most ardent supporters of historical cost accounting usually agree that a completely "historical" financial statement would have little utility. The strongest advocates of fair value usually agree that a system requiring fair values of all items in financial statements is impractical.

The Board expects that the present, multi-attribute system of accounting will continue for the foreseeable future. The question is not whether to use fair value, but which assets and liabilities should be reported at fair value and in which circumstances. The accompanying history of the Board's financial instruments project (section three) describes two of the Board's efforts in this area--FASB Statement No. 107, *Disclosures about Fair Value of Financial Instruments*, and FASB Statement No. 115, *Accounting for Certain Investments in Debt and Equity Securities*.

⁴We have included examples of some comments received on fair value in the accompanying history of the Board's financial instruments project. Opponents of fair value accounting include many bankers, CPA firms, and some federal regulators.

SECTION ONE

RESPONSE TO SPECIFIC INQUIRIES

Proponents of increased use of fair value for derivative financial instruments maintain that the value of those instruments is more relevant than their historical cost. (For many derivative financial instruments, historical cost is \$0.) They observe that fair value information is generally agreed to be essential for managing and controlling derivatives activities by dealers and by end-users. Fair value proponents acknowledge that their approach is not a cure-all. In particular, they usually agree that fair value alone cannot inform the financial statement reader about the risks involved with derivative instruments.

Opponents of increased use of fair value for derivative financial instruments contend that the period-to-period changes in the value of derivatives are less relevant than the company's overall strategy for using derivatives. In particular, they argue that any move to recognize the fair value of financial derivatives must be part of a broader effort that addresses the problems of hedge accounting described in section two.

The Board is currently considering a number of approaches that would address both the accounting for derivatives and hedge accounting. All of those approaches would require reporting derivative financial instruments at fair value, but fair value measurement alone would not solve many problems in hedge accounting. In recent months, the Board has been exploring a promising approach suggested by a constituent in a comment letter to a 1993 Report on Deliberations on hedge accounting. That approach would begin by recognizing all derivative instruments and measuring them in statements of financial position at their fair values, as the GAO recommends (see page 10). However, it would produce different income statement effects than the method recommended by the GAO. The Board is continuing to discuss the details of this proposal. While a number of knotty problems remain to be resolved, the Board is hopeful that it will issue an Exposure Draft by the end of 1994.

VIEWS ON H.R. 4503

The Board does not take positions on proposed legislation unless the legislation directly affects generally accepted accounting principles (GAAP). However, the Board and staff frequently offer comments and suggestions on accounting issues.

SECTION ONE

RESPONSE TO SPECIFIC INQUIRIES

Our principal responsibility is setting standards for accounting and reporting in general-purpose external financial reporting to investors, creditors, and others--the application of GAAP. That reporting may sometimes differ from the reports that insured financial institutions are required to file with federal banking, credit union, or other agencies, which are the main subject of the Bill. But there is a connection. The securities acts require that financial statements filed with securities offerings and periodically thereafter be prepared in accordance with generally accepted accounting principles and authorize the SEC to establish those principles. The SEC has traditionally looked to private-sector organizations to carry out that function. The FASB, over which the SEC exercises active oversight, is the organization currently recognized to do that. The resulting standards, together with other authoritative pronouncements and principles that have developed in practice, constitute generally accepted accounting principles.

The Federal Deposit Insurance Act, in sections 36 and 37, takes advantage of that private-sector process by requiring that reports or statements filed with federal banking agencies by insured depository institutions be uniform and consistent with generally accepted accounting principles. However that Act also allows the agencies to prescribe a different accounting principle "which is no less stringent than generally accepted accounting principles." As a result, we have an interest in any legislation that affects reporting to banking agencies.

Section 102 of the Bill would amend the Federal Deposit Insurance Act by adding a new section 44, Disclosure Requirements for Derivative Financial Instruments. That new section would say that federal banking agencies "shall consider, and may require," a series of specific disclosures about derivatives in regulatory reports. It also would extend the requirements of section 44 to insured credit unions and to other financial institutions that are not insured depository institutions or credit unions.

Many of the specific disclosures in the Bill resemble existing and proposed FASB requirements and we have no reason to question their current relevance. However, we are concerned that establishing such specific disclosures in a statute is unlikely to stand the test of time. Our 1994 Exposure Draft is in the midst of a comment period. It is virtually certain, based on our experience, that we will make at least some changes before a final Statement is issued. Furthermore, the derivatives market continues to evolve at a rapid pace, with new instruments and new twists on old instruments appearing constantly.

SECTION ONE

RESPONSE TO SPECIFIC INQUIRIES

The Board's own experience in setting disclosure standards may be instructive. We proposed standards in 1987, but needed to revise them extensively before issuing Statement 105 in 1990, in part because of developments in the market. We extended them in 1992, and are now revising them again in 1994. We expect to have to revise them again, to deal with issues we already know about but cannot resolve during 1994 and other matters that have not yet arisen but inevitably will.

One recent development illustrates this point. The Bill would require disclosure of gross notional values of each class of derivative. That provides some information about the extent of price risk an entity faces from its derivatives, and it mirrors an existing FASB requirement that our 1994 Exposure Draft would extend to all derivatives. But a new type of instrument that has emerged in recent weeks seems designed in part to get around those requirements: *leveraged swaps* or *structured notes* of modest notional principal but with multipliers that give them the price risk of instruments with 10 or even 100 times their notional principal amounts.

We are hesitant to make recommendations about regulatory accounting and reporting matters because that is not our jurisdiction and it is not an area in which we have special competence. However, we suggest that you consider in your Bill a more general set of requirements that convey your concerns but leave room for regulators to adapt to changing conditions.

RESPONSE TO GAO'S RECOMMENDATIONS ON DISCLOSURE AND ACCOUNTING

In its May 1994 report, *Financial Derivatives: Actions Needed to Protect the Financial System*, the GAO made, among other recommendations, three recommendations to the FASB. The GAO recommendations, and our responses, are as follows:

- *That the FASB proceed expeditiously to issue its existing Exposure Draft on disclosures of derivatives and fair value of financial instruments.*

The FASB's 1994 Exposure Draft is now out for public comment, with comments due July 1. After considering comments, the Board plans to issue a final Statement in the fall of 1994, in time to require implementation by larger companies in their December 31, 1994 financial statements.

SECTION ONE

RESPONSE TO SPECIFIC INQUIRIES

- *That the FASB proceed expeditiously to develop and issue an Exposure Draft that provides comprehensive, consistent accounting rules for derivative products, including expanded disclosure requirements that provide additional needed information about derivatives activities.*

The Board is continuing active work, begun in 1992, on hedge accounting, including accounting for derivatives, which are commonly used as hedging instruments. Resolving the many problems of hedge accounting has proved extremely challenging. We are hopeful that we will issue an Exposure Draft on those issues by the end of 1994. Appropriate disclosures for derivatives activities depend in large part on the accounting used for the derivatives. Once the accounting issues are settled, the Board plans to reconsider what disclosure requirements would be appropriate given the new accounting.

- *That the FASB consider adopting a market value accounting model for all financial instruments, including derivative products.*

The GAO's recommendation is similar to recent comments by some other organizations. The Board has moved to require disclosure of fair value for financial instruments and to require some of the more easily valued instruments to be reported at fair value in a company's balance sheet. The discussion of fair value accounting on page 7 and in section three describe many of the practical difficulties, and much of the opposition, to those requirements. Fair value accounting will inevitably be a consideration in every financial instrument issue the Board considers, but a comprehensive system based on fair value accounting is not likely in the near future.

INTERNATIONAL CONSIDERATIONS

The financial reporting issues raised by derivative financial instruments are not unique to the United States. The Board's counterparts in other countries have followed our lead in facing issues similar to those raised in this submission.

The Board maintains an active liaison with accounting standard setters in other countries and with the International Accounting Standards Committee (IASC). In January 1994, the IASC issued Exposure Draft E48, *Financial Instruments*. In April, representatives from the Board's counterparts in Australia, Canada, and the United Kingdom visited the Board to review the document and discuss each country's reactions. The Board's Vice Chairman, James J. Leisenring, participated in IASC meetings on the document held last week in Scotland.

SECTION TWO

FINANCIAL REPORTING PROBLEMS POSED BY
DERIVATIVE FINANCIAL INSTRUMENTS

WHAT IS A DERIVATIVE?

The term *derivative* loosely describes a family of financial instruments that *derive* their value from the price of some asset or index. The family includes familiar financial instruments--forward contracts, futures contracts, options, and swaps--and more complex instruments tailored to the specific needs of individual companies. Use of the term to describe those instruments is recent, reflecting their increasing use and complexity, but the term is imprecise. One commentator observes that even currency is a derivative instrument, since its value is derived from the strength of the economy.⁵ This submission uses the narrow definition adopted in the Board's Exposure Draft, *Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments*. Paragraph 5 of that document defines *derivative financial instrument* as "a futures, forward, swap, or option contract, or other financial instrument with similar characteristics."

It is important to remember that the building blocks of today's complex instruments and financial relationships are as old as established commerce. The financial relationships captured in a derivative instrument are often present in familiar transactions or "embedded" in everyday assets and liabilities.⁶ Many of the accounting problems raised by derivatives exist in other situations. What distinguishes derivative financial instruments is their ability to concentrate risk and accelerate the velocity with which economic events affect those who hold these instruments.

⁵Jack T. Ciesielski, "Divining Derivatives Disclosures: Numbers Behind the Noise." *The Analyst's Accounting Observer* (April 28, 1994): 2.

⁶For example, mortgage loan commitments to potential homeowners are derivative financial instruments.

SECTION TWO

FINANCIAL REPORTING PROBLEMS POSED BY
DERIVATIVE FINANCIAL INSTRUMENTS**WHAT ARE THE FINANCIAL REPORTING PROBLEMS POSED BY
DERIVATIVES?**

By definition, the holder of a derivative instrument does not own the underlying asset or index. Instead, the derivative is a separate asset or liability, the value of which varies based on the underlying item. Many commentators maintain that traditional financial accounting does not adequately address the characteristics of modern financial instruments. The Board generally agrees with that criticism, and has spent considerable time and effort working to improve financial reporting for financial instruments. The financial reporting issues raised by derivative instruments generally fall into four categories described below: Invisibility, Volatility, Measurability, and Hedging and Hedge Accounting. The Board's challenge is to find a combination of footnote disclosures and accounting recognition and measurement in balance sheets and income statements that will provide financial statement users with the most useful information.

Invisibility

Unlike conventional financial instruments like stocks, bonds, and loans, many derivative financial instruments are largely "off-balance-sheet." Everyday financial assets require large initial investments, which appear in the balance sheet and serve notice that the company is at risk. In contrast, many derivative financial instruments require little "up front" investment, at least, relative to the risk involved. In some cases, a company's initial investment may only be the fee paid to an investment banking house. In other cases, a derivative instrument may involve no initial payment at all; the parties exchange promises that--at first--have equal value. As a result, little or nothing is initially reported in financial statements. A company may have significant risks arising from its ownership of derivatives, but the amounts reported in the company's balance sheet do not fully portray those risks.

SECTION TWO

FINANCIAL REPORTING PROBLEMS POSED BY
DERIVATIVE FINANCIAL INSTRUMENTSExample

Company A purchases a portfolio of low-grade bonds for \$100. Informed financial statement users understand that the investment reported on A's balance sheet carries the risk that some of the bond issuers may default. In a separate transaction, unrelated to A, Company B writes a put option, promising to buy identical bonds for \$100, even if they default, and collects a fee of \$10. Both A and B have the same type of (default) risk. Each could lose as much as \$100, but B's possible loss far exceeds the \$10 reported in its financial statements.

This discontinuity between the company's exposure to risk and the amounts reported in financial statements is usually referred to as *off-balance-sheet* risk. Financial reporting provides information about the historical cost of assets and liabilities, and sometimes about their fair values. Analysts and others who use financial statements understand that different assets have differing degrees of risk. For most traditional financial instruments, the amount reported in the financial statements is also the maximum possible loss. The same cannot be said of many derivative financial instruments.

While stand-alone derivative instruments have attracted considerable attention recently, many familiar transactions incorporate similar features. Modern financial markets have come to understand that those *embedded* derivatives play a large part in the value and behavior of seemingly commonplace assets and liabilities. Most current accounting standards do not address embedded derivatives, but any accounting solution that addresses stand-alone derivatives without considering their embedded cousins will be incomplete.

Example

The typical fixed-rate home mortgage grants the homeowner the right to prepay the mortgage through refinancing at the homeowner's discretion. In the jargon of derivatives, the homeowner has a put option, an embedded derivative. The recent dip in interest rates prompted a flood of refinancing transactions, with significant loss to many holders of securities backed by the mortgages involved.

SECTION TWO

FINANCIAL REPORTING PROBLEMS POSED BY
DERIVATIVE FINANCIAL INSTRUMENTS**Example**

Companies often issue convertible bonds. The bondholder, at his or her discretion, can choose to convert the bonds into a specified number of shares of company stock. The bondholder owns a bond with an embedded derivative--the option to buy stock at a fixed price.

Some accountants reason that embedded derivatives, while important, are less significant than the overall instrument. A fixed-rate home mortgage, after all, is still primarily a loan. The recent growth of instruments known as *structured notes*, however, raises the specter of financial instruments in which the embedded derivative is more significant than the traditional instrument. A structured note may have the legal form of a loan, but with interest and principal payments that are indexed to other assets or indexes. (One mutual fund recently disclosed a structured note with interest payments indexed to cocoa prices and another for which U.S. dollar interest was inversely indexed to the prevailing short-term interest rates in Finland and principal was indexed to the price of two-year Finnish government securities, all multiplied by six.)

Volatility

The holder of a derivative instrument does not own the underlying financial instrument, rather the holder owns a right to the change in value of the underlying instrument. The derivative instrument generally costs much less than the underlying instrument. As a result, the values of derivative financial instruments tend to be more volatile than the values of familiar financial instruments, including those on which the derivative's value is based. Commentators argue that financial statement users need information about this potential volatility if they are to make fully informed decisions.

SECTION TWO

FINANCIAL REPORTING PROBLEMS POSED BY
DERIVATIVE FINANCIAL INSTRUMENTS**Example**

Company C has an investment in U.S. Treasury securities that will pay \$100 one year in the future. C pays \$93.35 for the securities and records the asset at that amount. Informed financial statement users understand that the value of the investment reported on C's balance sheet will change if interest rates increase or decrease. A 1 percent increase in interest rates will lower the security's value about 1 percent, to \$92.45. Company D pays \$10 to purchase a derivative financial instrument indexed to changes in the value of the same securities. The same 1 percent change in interest rates might lower the value of D's contract from \$10 to \$9.10--a 9 percent change in value. Both C and D have the same type of (market) risk, but D's risk is proportionally greater relative to the amount recorded in its financial statements.

The concentration inherent in many derivative instruments is not new. Anyone familiar with commodity futures contracts knows that the futures buyer puts up only a fraction of the total value of contracts on wheat, cattle, or pork bellies. Many modern derivative instruments increase this concentration by adding a multiplier to the index. For example, D's contract might multiply the effect of interest rate changes by a factor of five.

Measurability

The ability to measure derivative financial instruments with an acceptable level of reliability is key to footnote disclosures and possible accounting solutions. Many derivative financial instruments trade on established exchanges and, as a result, have readily determinable fair values. However, companies often purchase derivative instruments directly from dealers. Those instruments, sometimes referred to as *over-the-counter* (OTC) derivatives, may be relatively generic and have readily determinable fair values. But other OTC derivatives are tailored to meet a company's specific needs, may have no ready market, and can be very difficult to value. The problem is compounded when a tailor-made instrument includes two or more derivative elements. For example, a contract indexed to the German DAX stock market index but denominated in dollars is far more difficult to value than either a contract indexed to the mark/dollar exchange rate or a mark-denominated contract indexed to the DAX. The only available source for information about the value of a complex derivative may be the same expert who created the instrument, a situation open to conflicts of interest.

SECTION TWO

FINANCIAL REPORTING PROBLEMS POSED BY
DERIVATIVE FINANCIAL INSTRUMENTS**Hedging and Hedge Accounting**

If derivative financial instruments were simply wagering or speculation, the accounting problems would be fairly straightforward. Assets purchased for speculation are typically reported at fair value, with changes in value reported in each period's statement of earnings. However, many companies enter into derivative instruments in an attempt to manage or *hedge* risks inherent in more traditional business activities that are reported at historical cost. Reporting the derivative instrument at fair value and the related assets or liabilities at historical cost creates an accounting anomaly. Without some special accounting treatment, gains and losses from the derivative instrument and the traditional activities being hedged will fall in different accounting periods.

Example

Company E has an inventory of corn that it plans to sell next year. At today's prices, the inventory has a value of \$80, which equals E's cost. Concerned that the price of corn may fall, E enters into a forward contract to sell the corn for \$80. Corn prices are up at the end of the year, and E's corn inventory is now worth \$90. The forward contract, a right and an obligation to sell corn at a price now below the market, has generated an unrealized loss of \$10. E has a perfect hedge, since the decrease in the value of the forward contract exactly offsets the increase in the value of the corn inventory.

The problem is how to report the hedge in financial statements. E reports inventories at the lower of cost or market, so this year's financial statements will report the corn inventory at its cost of \$80. E will not report any gain from the sale of the corn until it is sold--next year. If E must report the forward contract at fair value, and report the unrealized loss in income, then the financial statements for two years might look something like this:

SECTION TWO

FINANCIAL REPORTING PROBLEMS POSED BY
DERIVATIVE FINANCIAL INSTRUMENTS

Without Hedge Accounting		
Balance Sheets		
	This Year	Next Year
<u>Assets</u>		
Cash	0	80
Corn inventory, at cost	80	0
<u>Liabilities and Equity</u>		
Forward contract, at fair value	10	0
Equity	70	80
Income Statements		
	This Year	Next Year
Sale of corn		90
Cost of corn		(80)
Loss on forward contract	(10)	
Net income (loss)	(10)	10

Many companies object to this pattern of earnings, arguing that E entered the forward contract to protect against changes in the price of corn. Reporting the loss in this year's income, in their view, only tells part of the story; it ignores the hedging relationship. They favor an accounting approach known as *hedge accounting*. Using hedge accounting, E defers the loss on its corn forward contract until it sells the corn. The financial statements for two years look something like this:

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FINANCIAL REPORTING PROBLEMS POSED BY
DERIVATIVE FINANCIAL INSTRUMENTS

With Hedge Accounting Balance Sheets		
	This Year	Next Year
<u>Assets</u>		
Cash	0	80
Corn inventory, at cost	80	0
<u>Liabilities and Equity</u>		
Forward contract, at fair value	10	0
Deferred loss	(10)	0
Equity	80	80
 Income Statements		
	This Year	Next Year
Sale of corn		90
Cost of corn		(80)
Loss on forward contract		(10)
Net income	0	0

Real-life situations are almost never this simple, and hedging instruments rarely move with the perfect correlation portrayed here. Still, this simple illustration portrays the basic accounting relationships in hedge accounting. Like most simple illustrations, it hides a bewildering array of conceptual and practical problems. Some of those problems include:

Comparability. Does hedge accounting satisfy the goal of reporting similar events and transactions similarly and different events and transactions differently? With hedge accounting, this year's income statement for E presents no income or loss. That is the same result that E would have reported this year without any hedging strategy. Only when E sells the corn and closes the cycle do the differences appear.

Designation. How should a company identify which relationships between various assets, or between assets and liabilities, constitute hedging relationships? The relationship between E's corn forward and corn inventory is easy to see, but other relationships are less clear. Many existing assets and liabilities naturally offset risks in the normal course of business. Should those natural hedges also qualify for special accounting?

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Anticipated transactions. Should hedge accounting extend to transactions that a company anticipates in the future? What if, instead of owning corn today, E plans to buy corn next year and seeks to protect itself from price increases on its planned purchases? This issue would remain even if all derivative instruments, and all hedged assets or liabilities, were measured at fair value.

Risk. Which risks qualify for hedge accounting? Companies face a variety of risks, including interest rates, foreign exchange, commodity prices, credit and default, liquidity, catastrophe, business cycle, and strategic risks. Do all of those qualify for hedge accounting, or only some? Must a strategy attempt to reduce risk of loss, or can strategies that select or manage risk also qualify? Is risk the possibility of future price changes, as in the example, or is risk the possibility of changes in future cash flows?

Complexity. How much accounting guidance is needed? The Board believes that any hedge accounting approach would necessarily be complex. For example, how much of a gain or loss should be deferred? For how long? Can deferral be designated to a group of assets or liabilities, even to the entity as a whole, or should it be limited to specific assets or liabilities?

Underlying all of these questions is a concern that hedge accounting might be used to manipulate reported income. Hedging relationships are subjective and the perfect economic hedge portrayed in our example is the exception, not the rule. Under present deferral hedge accounting rules, some enterprises have accumulated large deferred losses. Some commentators view this as evidence that earnings and balance sheets have been inflated by artful use of hedge accounting.

INTRODUCTION

Since 1985, the Board has devoted a major portion of its time and resources to a major project on financial instruments. This project is a response to several problems posed by changes in financial markets, including the following:

- Accountants find it difficult to resolve the problems posed by innovative financial instruments using present accounting standards. Moreover, these new instruments raise questions about the adequacy of present accounting standards for traditional financial instruments. In its ten-year history, about half of the more than 200 questions addressed by the FASB's Emerging Issues Task Force have involved financial instruments or financial institutions.
- Many present accounting practices respecting financial instruments were developed for separate industries or were developed ad hoc to address specific instruments or problems. This inevitably produced inconsistency in financial reporting. Board constituents have indicated their dissatisfaction with inconsistent accounting treatments for like transactions and their support for improved accounting for financial instruments by all reporting entities.
- Investors and other users of financial statements need information about the types of financial instruments an entity owns and the risks of those instruments.
- Members of the U.S. Congress and federal regulatory agencies have questioned the adequacy of present accounting standards for financial instruments, particularly in the light of failures of savings and loans and banks. They have expressed concerns that similar problems may affect more banks, insurance companies, and other financial institutions.

Adding Financial Instruments to the Board's Agenda

The economic environment of the 1970s and early 1980s triggered intense innovation in financial markets as companies sought to reduce risks from unstable foreign exchange rates and interest rates. Changes in the tax laws, regulation, and technology gave investors the ability to restructure traditional financial instruments and create new ones. In addition, some financial instruments seemed to be designed to achieve particular accounting results.

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THE FASB FINANCIAL INSTRUMENTS PROJECT

In a June 27, 1985 letter to the Board, the then chief accountant of the SEC, Clarence Sampson, requested that the Board add to its agenda a major project that would address the broad area of financial assets and transactions. In his letter to the Board he stated, "Notwithstanding these various initiatives, the Commission believes that a piecemeal approach to this area may not be the most effective. Therefore, we strongly encourage a macro-level review of the accounting and financial disclosure issues involved." The Financial Accounting Standards Advisory Council, a group that advises the Board on agenda priorities and other matters, generally agreed and recommended that the Board begin a broad project on financial instruments.

However, public support for the project was not universal. The Financial Executives Institute in its September 6, 1985 letter stated:

With respect to other unique financial transactions and instruments, we agree that it is desirable that the FASB provide additional guidance. However, we do not see a need for the broad project outlined in the Chief Accountant's letter to the FASB. In fact, *there has been no evidence presented of a need for a comprehensive review of recognition and measurement issues relating specifically to financial assets such as receivables, loans, etc.* [Emphasis added.]

For about a year before the Board added the financial instruments project to its agenda, a committee of three Board members worked with the staff to define the scope of a project. They sought to organize the issues into manageable groups. The project was tentatively divided into six parts, dealing with:

- Disclosure about financial instruments
- Derecognition, nonrecognition, and offsetting of related assets and liabilities
- Financial instruments that transfer risk
- Measuring financial instruments
- Issuers' accounting for securities with both debt and equity characteristics
- Effect of separate legal entities.

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In May 1986, the Board added a project on financial instruments and off-balance-sheet financing to its agenda. The Board was especially concerned with the need to develop broad standards for current financial instruments and for those that might develop in the future. Another objective of the project was to provide accounting guidance for all industries. While banks and other financial institutions generally create financial instruments, their use tends to spread into all kinds of business enterprises.

DISCLOSURE PHASE

The Board's initial objective was to improve disclosures about financial instruments and transactions in the notes to financial statements, an approach that has proven successful in other FASB projects. Improved disclosures provide useful interim information for financial statement issuers and users, and for the Board, as a project moves forward on more fundamental recognition and measurement issues. The Board understood that recognition and measurement issues would be especially complex and time-consuming in this project, given its broad scope.

The 1987 Exposure Draft, *Disclosures about Financial Instruments*

In November 1987, the Board issued an Exposure Draft, *Disclosures about Financial Instruments* (the 1987 Exposure Draft). That Exposure Draft defined financial instruments broadly as any contract that is both a (recognized or unrecognized) financial asset of one entity and a (recognized or unrecognized) financial liability or equity instrument of another entity.

The 1987 Exposure Draft proposed the following disclosures for *all* financial instruments and *all* entities:

- Credit risk (maximum credit risk, probable and reasonably possible credit losses, and individual, industry, or geographic concentrations)
- Market risk, including interest rate and foreign exchange risks (effective interest rates, contractual repricing or maturity dates, and currency denominations)
- Liquidity risk (contractual future cash receipts and payments)
- Current market values if they could be determined.

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After issuing the 1987 Exposure Draft, the Board worked on a test application with a group of companies and accounting firms. In addition, the Board met with constituents and analyzed more than 400 comment letters from interested parties. For the most part, respondents to the 1987 Exposure Draft agreed that improving disclosures (especially those related to off-balance-sheet items) was a useful interim step and the risks identified in the 1987 Exposure Draft--market, credit, and liquidity risk--needed better and more comparable disclosure. However, most respondents maintained that the proposed disclosures were too extensive, too quantitative, and too expensive to implement. Banks and other financial institutions in particular objected to disclosing market values of their loan portfolios.

NBD Bancorp stated in its April 22, 1988 letter:

We concur with the FASB that in selected well defined areas additional disclosure may be useful, in particular with respect to the so-called off-balance-sheet instruments. In total, however, we do not understand the source of the FASB's perceived need for disclosure of the magnitude covered by the subject proposal....

We would strongly recommend that the FASB either completely abandon this project or reduce its scope to those limited areas where additional disclosure may be useful. In its present form it is another example of costly accounting and reporting requirements that add confusion rather than clarity to financial information.

BankAmerica Corporation stated in its April 28, 1988 letter:

It would be a travesty to burden U.S. financial, commercial, and industrial corporations with such paperwork, at this time when we are striving so hard to be internationally competitive.

It may be much more appropriate to consider the disclosure issues at the same time as the measurement issues. In our judgment, such an approach would provide a better basis for understanding the issues and thus better facilitate the Board and industry, in tandem, developing the appropriate accounting and disclosure requirements.

The American Bankers Association, stated in its April 29, 1988 letter:

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In general, the disclosures called for in the proposed statement involve the presentation of information in a way that is neither relevant to the management of a financial institution nor useful to persons interested in measuring the financial circumstances of the enterprise. As a result, the disclosures will result in information overload--mixing useless information in with relevant information and downgrading the whole process of financial information disclosure. In some cases, we believe that it will prove to be more confusing to users than informative.

No final Statement was issued as a result of the 1987 Exposure Draft. It is worth noting, however, that the disclosures proposed seven years ago focused on the kinds of financial reporting problems described in section two.

FASB Statement No. 105, *Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk*

Responding to constituents' concerns about the 1987 Exposure Draft, the Board decided to consider disclosure issues in phases. In July 1989, the Board issued a revised Exposure Draft, *Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk* (the 1989 Exposure Draft).

The 1989 Exposure Draft proposed disclosure of information about the nature, extent, and terms of financial instruments with off-balance-sheet risk of accounting loss and the related credit risk of those instruments, as well as about concentrations of credit risk for all financial instruments. Instruments with "off-balance-sheet risk of accounting loss" excluded options held, receivables, loans, securities, and most liabilities, but included many of what are now called derivative financial instruments. The proposed disclosures about financial instruments with off-balance-sheet credit risk included:

- The face or contract amount and the amount recognized in the statement of financial position
- A discussion of the nature and terms including, at a minimum, a discussion of market, credit, and liquidity risk and the related accounting policy
- The amount of loss the entity would incur if any counterparty to the contract failed to perform
- The entity's policy for recognizing collateral or other security and a description of the collateral.

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The 1989 Exposure Draft also proposed to require disclosure about any significant concentration of credit risk for *all* financial instruments.

Most responses to the 1989 Exposure Draft were favorable. The Federal Deposit Insurance Corporation stated in its September 29, 1989 letter to the Board:

Based on our review of the ED, the disclosure approach the Board has taken addresses many of the concerns this Division expressed in its comment letter on the November 1987 ED.... We are also pleased by the current ED's *less extensive reliance on quantitative disclosures* and its requirement for narrative comments on the risks associated with financial instruments with off-balance-sheet risk, related accounting policies, and collateral policies. [Emphasis added.]

The GAO stated in its letter dated October 26, 1989 that:

We view the disclosure of these risks as a significant step forward in the continuing effort to improve the usefulness of financial statements and meet the fundamental objectives of financial reporting....

We find this draft to be an improvement over the previous one, especially with regard to two issues about which we had commented. This draft provides better guidance on where the disclosure information is to be presented, whereas the 1987 version had simply stated that certain information was to be disclosed, "provided," or "reported." The current draft states that the entity shall disclose the information either in the body of the statements or in the notes. In addition, the complexity of the disclosures has been reduced by adopting a narrative format.

In March 1990, the Board issued FASB Statement No. 105, *Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk*. This Statement was effective for financial statements issued for fiscal years ending after June 15, 1990.

FASB Statement No. 107, *Disclosures about Fair Value of Financial Instruments*

The Board next focused on disclosures about market (fair) values and in December 1990, the Board issued an FASB Exposure Draft, *Disclosures about Market Value of Financial Instruments* (the 1990 Exposure Draft).

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The 1990 Exposure Draft proposed to extend existing market value disclosure practices by requiring all entities to disclose the market value of all financial instruments for which it was practicable to estimate market value. The Board concluded that fair value provides a relevant measure for unrecognized financial instruments and another relevant measure for those recognized financial instruments measured in the balance sheet at historical cost. The Board also concluded that, with the exception of certain instruments specifically excluded from the Exposure Draft, the benefits of disclosing information about fair value, when practicable, justified the cost involved.

Comments on the 1990 Exposure Draft were almost unanimously negative. The Federal Reserve System, in its May 1, 1991 letter, stated:

We are concerned about certain specific aspects of the proposal. Under the proposal, assuming that it is practicable, companies would be required to disclose market values for both traded and non-traded financial instruments. However, active markets do not exist for a large portion of the assets, liabilities and off-balance-sheet commitments of banking organizations and some other kinds of businesses. For these non-traded instruments, market values would have to be estimated and such estimates could be highly subjective. The economic value of an asset or a liability might justifiably differ according to the attributes of the holder, reflecting differences in risk preferences, tax situations, informational and operating costs, and other idiosyncratic factors....

In addition, the subjectivity of the estimation process would seem to be further encouraged by certain language of the proposal which would permit, and, indeed support, the sacrifice of precision in order to obtain a rough approximation of market value....If this were to occur, the reliability and usefulness of these financial statement disclosures would be diminished....

...In view of these potential problems, and consistent with our general position set forth above, *we recommend that the disclosure of market values only be required for financial instruments for which active markets exist.* This recommended approach would represent an improvement in the disclosures currently presented in the financial statements of banking organizations and other enterprises, while at the same time avoiding many potential problems associated with market value estimates. [Emphasis added.]

The Board held a public hearing on the proposals and notwithstanding negative response, issued FASB Statement No. 107, *Disclosures about Fair Value of Financial Instruments* in December 1991. Paragraphs 40 and 41 of Statement 107 include the Board's response to those who objected to disclosing information about fair values:

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Fair values of financial instruments depict the market's assessment of the present value of net future cash flows directly or indirectly embodied in them, discounted to reflect both current interest rates and the market's assessment of the risk that the cash flows will not occur. Investors and creditors are interested in predicting the amount, timing, and uncertainty of future net cash inflows to an entity, as those are the primary sources of future cash flows from the entity to them. Periodic information about the fair value of an entity's financial instruments under current conditions and expectations should help those users both in making their own predictions and in confirming or correcting their earlier expectations.

Information about fair value better enables investors, creditors, and other users to assess the consequences of an entity's investment and financing strategies, that is, to assess its performance. For example, information about fair value shows the effects of a decision to borrow using fixed-rate rather than floating-rate financial instruments or of a decision to invest in long-term rather than short-term instruments. Also, in a dynamic economy, information about fair value permits continuous reassessment of earlier decisions in light of current circumstances.

Statement 107 is effective for financial statements issued for fiscal years ending after December 15, 1992, except for entities with less than \$150 million in total assets in the current statement of financial position. For those entities, the effective date is for fiscal years ending after December 15, 1995.

The 1994 Exposure Draft, *Disclosures about Derivative Financial Instruments and Fair Value of Financial Instruments*

During late 1993, a number of constituents requested that the Board consider further improvements in disclosures about derivatives. Some called for voluntary action modeled on disclosures already being provided by a few institutions. Others urged the Board to enhance existing requirements as a further intermediate step in its project on financial instruments. SEC commissioners and staff called for the Board to do more "given the lack of transparency in financial statements of entities with [over-the-counter derivative] books far in excess of their capital."⁷

⁷(FASB Exposure Draft, *Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments*, par. 23).

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In April 1994, the Board issued an Exposure Draft, *Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments*, which proposes to require that all entities disclose information about derivative financial statements and would change the way they disclose fair value of financial instruments. The objectives of the 1994 Exposure Draft are to:

- Enhance disclosure about derivative financial instruments
- Make technical improvements to the disclosure about fair value of financial instruments
- Accomplish both of the above in time to improve 1994 year-end financial reporting.

The specific proposed requirements of the 1994 Exposure Draft are described in section one. The comment period on this Exposure Draft ends July 1, 1994.

RECOGNITION AND MEASUREMENT -- GENERAL EFFORTS

In August 1990, the Board issued a Discussion Memorandum, *Distinguishing between Liability and Equity Instruments and Accounting for Instruments with Characteristics of Both* (the 1990 Discussion Memorandum). A Discussion Memorandum is a neutral discussion of accounting issues and alternative solutions. The Board uses Discussion Memorandums as the first step in major projects to frame issues and gain information in a neutral setting before considering specific proposed solutions. The 1990 Discussion Memorandum asked questions about several long standing issues and some new issues raised by financial innovations aimed in part at making corporations appear less leveraged. Work on this part of the project has been suspended as the Board addresses other issues.

In November 1991, the Board issued another Discussion Memorandum, *Recognition and Measurement of Financial Instruments* (the 1991 Discussion Memorandum). This document arranges questions about financial instruments into five functional categories:

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- Recognition
- Display
- Initial measurement
- Subsequent measurement
- Derecognition.

Work on the 1991 Discussion Memorandum began in 1988 when the Board first considered the "building block" approach to financial instruments. Financial theorists suggest that complex financial instruments are built up or assembled from a small set of fundamental instruments. The Discussion Memorandum identified six:

- Unconditional payables/receivables
- Conditional payables/receivables
- Financial forward contracts
- Financial options
- Financial guarantees and other conditional exchange contracts
- Equity instruments.

The 1991 Discussion Memorandum was a comprehensive document; it addressed 90 issues and subissues. Indeed, to the best of our knowledge, this was the first attempt by any organization to capture a thorough discussion of financial instruments and an analysis of their accounting implications in a single document. The Board hoped that the 1991 Discussion Memorandum would provide a basis for building general solutions, rather than addressing issues piecemeal. That effort has proven more difficult than we expected, and has progressed more slowly than planned, but work continues.

RECOGNITION AND MEASUREMENT -- SPECIFIC ISSUES**FASB Interpretation No. 39, *Offsetting of Amounts Related to Certain Contracts***

In March 1991 the Board added to its agenda a project that addressed circumstances in which it is appropriate to offset amounts reported for contracts in a gain position with amounts reported for contracts in a loss position. For example, may a company offset a \$100 contract with counterparty A that is an asset against a \$90 contract with counterparty B that is a liability--thus reporting a net asset of \$10? In March 1992, the Board issued FASB Interpretation No. 39, *Offsetting of Amounts Related to Certain Contracts*. The interpretation prohibits offsetting of amounts related to forwards, swaps, and similar contracts unless the legal right of offset exists or a master netting agreement is in effect.

While this Interpretation might seem to deal with a minor issue, it addresses in part one of the key accounting problems identified in section two--the invisibility of derivatives.

FASB Statement No. 114, *Accounting by Creditors for Impairment of a Loan*

In February 1991 the Board responded to requests from the Accounting Standards Executive Committee of the American Institute of Certified Public Accountants (AICPA), the SEC, the Federal Home Loan Bank Board, and the Federal Deposit Insurance Corporation that it address whether and, if so, in what circumstances creditors should measure impairment of collateralized loans based on the present value of expected future cash flows. At the time, saving and loan institutions included interest in the measurement of troubled loans; however, banks did not, and this resulted in similar entities accounting for the same event differently.

In June 1992, the Board issued an Exposure Draft, *Accounting by Creditors for Impairment of a Loan* (the 1992 Exposure Draft). The 1992 Exposure Draft stated that a loan is impaired when it is probable that a creditor will be unable to collect all amounts due according to contractual terms of the loan agreement. The 1992 Exposure Draft proposed requiring all entities to report impaired loans at the present value of expected cash flows, discounted at the loan's original effective interest rate.

For the most part responses were critical. Many respondents argued against present value. They favored accounting based on total, undiscounted, cash flows -- in effect treating cash flows received in the future the same as cash received today. The FDIC stated in its November 1992 letter:

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While we appreciate the FASB's efforts to develop an accounting standard for loan impairment, we do not believe that the proposed Statement, if adopted in its present form, will produce improved or more reliable financial reporting by creditors. In our opinion, the calculations of present values and changes in these values over time that the Exposure Draft requires are predicated on cash flows estimates which possess an unacceptable level of uncertainty. This will make the proposal difficult and burdensome to implement, particularly because these calculations will need to be made on a quarterly basis to ensure adequacy of the allowance for credit losses as of the date of each statement of financial position....A preferable approach would be to build on the methodology commonly used by depository institutions to calculate their allowances for credit losses so that the expected timing of future payments on impaired loans is judgmentally considered in the determination of the high and low estimated loss amounts for individually reviewed loans.

Ernst and Young stated in its October 12, 1992 letter:

With respect to the proposal, we disagree with the threshold conclusion that estimated cash flows must be discounted in measuring loan impairment. However, our concerns go beyond the issues addressed in this narrow project. As stated in our comment letter on the FASB's recent DM, "Recognition and Measurement of Financial Instruments," we are concerned that in an attempt to be responsive to certain criticisms of the present accounting model, the *FASB is moving too quickly in implementing significant changes*. In this regard, we are also concerned that the changes being proposed do not have adequate support from a wide range of financial statement users. [Emphasis added.]

The Association for Investment Management and Research (AIMR)--an organization of over 22,000 financial analysts, portfolio managers, and other investment professionals--generally supported the Board on this issue. While voicing reservations about some issues, the AIMR's October 19, 1992 letter offered the following comment:

The FAPC [Financial Accounting Policy Committee] applauds the FASB's goal of standardizing the measurement of loan impairment. Inconsistent guidance results in differences in when and how different types of organizations recognize loan losses. This in turn makes company comparisons difficult and detracts from the credibility of the financial reporting process.

The FAPC agrees that a creditor should measure impairment of a loan based on the present value of expected future cash flows. This methodology will result in an impaired loan being presented on a basis that is comparable to an unimpaired loan since a creditor's recorded investment in an unimpaired loan is the present value of future payments regardless of whether they are labeled principal or interest.

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Paragraphs 41 to 43 of Statement 114 include the Board's response to those who criticized measuring impaired loans based on the present value of expected cash flows:

The threshold issue is whether impaired loans should be carried at discounted or undiscounted amounts. The Board observed that a creditor's recorded investment in a loan both at origination and subsequently during the life of the loan, as long as the loan performs according to its contractual terms, is the sum of the present values of the future cash flows that are designated as interest and the future cash flows that are designated as principal, including any amount due at maturity, discounted at the effective interest rate implicit in the loan. The effective interest rate implicit in the loan may be the same as or may differ from the interest rate stated in the agreement. If the effective interest rate differs from the stated interest rate, the recorded investment in the loan is the face amount plus net deferred loan costs and unamortized premium or less net deferred loan fees and unamortized discount.

The Board concluded that a loan that becomes impaired should continue to be carried at an amount that considers the present value of all expected future cash flows, in a manner consistent with the loan's measurement before it became impaired. The Board concluded that because loans are recorded originally at discounted amounts, the ongoing assessment for impairment should be made in a similar manner.

The Board recognizes that expected future cash flows from impaired loans are usually uncertain and creditors will be required to exercise significant judgment in developing the estimates of expected future cash flows. The Board believes that existing methods of measuring impaired loans and determining the adequacy of the allowance for credit losses already consider the uncertainty of expected future cash flows. The Board concluded that this uncertainty of expected future cash flows is not a valid reason to ignore discounting and that failure to measure impaired loans on a discounted basis would not only be inconsistent with the manner in which unimpaired loans are measured but also would inappropriately ignore the time value of money. *If impaired loans were measured on an undiscounted basis, two loans could be carried at the same amount although one is performing fully and the other is a loan for which no cash flows are expected to be received for several years. In the Board's view, this is an unreasonable result both in terms of the appropriate measure of the two loans in the statement of financial position and in terms of the appropriate measurement of the event of impairment.* [Emphasis added.]

After adopting several simplifying recommendations offered by respondents, the Board issued Statement 114 in May 1993. The Statement is effective for financial statements for fiscal years beginning after December 15, 1994 with earlier application encouraged.

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In March 1994, the Board issued an Exposure Draft, *Accounting by Creditors for Impairment of a Loan - Income Recognition*, which if adopted would amend Statement 114. This was a result of several requests to resolve implementation questions about the application of the income recognition provisions of the Statement. Constituents asked the Board to delay implementation of Statement 114. Rather than delay, the Board proposed to simplify parts of the Statement while retaining the original effective date. The comment period on this Exposure Draft ended June 1, 1994. We expect to begin redeliberations shortly and hope to issue a final Statement by the end of this year.

FASB Statement No. 115, *Accounting for Certain Investments in Debt and Equity Securities*

In September 1992, the Board issued an Exposure Draft, *Accounting for Certain Investments in Debt and Equity Securities*. Then SEC Chairman Richard C. Breeden encouraged the Board to pursue this project, as he and others, including the AICPA, expressed concern about the recognition and measurement of investments in debt securities, particularly those held by financial institutions.

In a September 14, 1990 speech to the Smith Barney Financial Services Conference, then Chairman Richard C. Breeden offered the following comments:

Under current GAAP, recording investment securities at cost generally requires that an institution have the ability and intent to hold the securities to maturity. The rationale for this treatment is that, if the security is held to maturity, it will be redeemed at its face amount. Therefore, temporary fluctuations in market value due to interest rates changes are considered irrelevant since they do not affect ultimate realization at maturity -- which of course may not occur for decades. This justification is irrelevant, however, to the value of the investment, and to the true value of rate of return in an institution's portfolio. Even if the principal of a debt security is ultimately paid 29 years in the future, this does not eliminate the relevance of a significant decline in the value of that security, and the real net worth of the institution, during the intervening years.

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This accounting rule was developed in a vastly different economic environment than the one in which institutions must function today. Today financial institutions actively manage their interest earning asset and interest bearing liability portfolios to maximize net income and to manage interest rate risk. This "asset/liability" management often requires frequent buying and selling of investment securities to restructure asset and liability maturities. The continued use of the historical cost model in this environment is inappropriate because of the diminished relevance of the resulting financial information. [Footnote references omitted.]

Paragraph 27 of Statement 115 describes the problems that prompted the Board to add this project:

a. *Inconsistent literature.* The authoritative literature on investments in debt securities is inconsistent among different industries and has resulted in diversity in reporting.

b. *Lower-of-cost-or-market (LOCOM) not evenhanded.* The current requirement to use the LOCOM method for debt securities held for sale and for noncurrent marketable equity securities is not evenhanded because it recognizes the net diminution in value but not the net appreciation in the value of those securities.

c. *Greater relevance of fair value information.* Some believe that fair value information about debt securities is more relevant than amortized cost information in helping users and others assess the effect of current economic events on the enterprise.

d. *Gains trading.* The current requirement to use the amortized cost method permits the recognition of holding gains through the selective sale of appreciated securities but does not require the concurrent recognition of holding losses.

e. *Accounting based on intent.* Current accounting for a debt security is based not on the characteristics of the asset but on management's plans for holding or disposing of the investment. Intent-based accounting impairs comparability.

The Board concluded that a limited pronouncement could address some of these questions and provide an important and timely response to perceived problems in financial reporting. The Exposure Draft addressed issues (a) and (b) by proposing a single approach to accounting for equity securities with readily determinable fair value and all debt securities.

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- Debt securities that the enterprise has the positive intent and ability to hold to maturity are classified as held-to-maturity securities and reported at amortized cost. If management's intention to hold a security is uncertain, or if the security might be sold in response to a variety of normal business developments, the security may not be classified as held-to-maturity.
- Debt and equity securities that are bought and held principally for the purpose of selling them in the near term are classified as trading securities and reported at fair value, with unrealized gains and losses included in earnings.
- Debt and equity securities not classified as either held-to-maturity securities or trading securities are classified as available-for-sale securities and reported at fair value, with unrealized gains and losses excluded from earnings and reported in a separate component of shareholders' equity.

The Exposure Draft partially addressed issue (c) by requiring accounting based on fair value for a broader spectrum of assets. The Exposure Draft left issues (d) and (e) unresolved, although it required disclosures that would highlight situations in which gains trading might occur.

Respondents questioned the exclusion of liabilities from the standard, whether the standard as proposed was operational, and whether the information that would be provided was useful.

Coopers & Lybrand, in its November 17, 1992 letter, stated its reservation about the scope of the project, in this manner:

In summary, we do not believe that the Board should issue a final Statement without including liabilities in its scope. Also, before reaching any conclusions on the merits of fair value accounting, the Board should first fully evaluate the impact of Statement 107 and the views of financial statement users.

Ernst & Young, in its November 24, 1992 letter, stated its reluctance to move towards fair value accounting:

While retaining an amortized cost category, its use is so restrictive that we view the proposal as a piecemeal move toward market value accounting.

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Questions about whether, and if so, how to include the fair value of liabilities in this project were especially difficult. Paragraphs 49 and 51 of Statement 115 describe the Board's efforts to resolve this issue:

Some enterprises, particularly financial institutions, manage their interest rate risk by coordinating their holdings of financial assets and financial liabilities. This practice would suggest that, in order for the financial statements to present a more accurate view of an enterprise's exposure to risk, some liabilities should be reported at fair value if some investments are required to be reported at fair value. The Board considered in significant detail whether enterprises should be permitted the option of reporting at fair value the liabilities that are related to the investments in debt securities that are reported at fair value.

The Board believes it would be preferable to permit certain related liabilities to be reported at fair value especially if all investments in debt securities were required to be reported at fair value. However, the Board was unable to identify, and respondents did not propose, any approach for valuing liabilities that the Board considered workable and not unacceptably complex or permissive. Because many enterprises manage interest rate risk on an overall basis for all financial assets and liabilities rather than for specific financial assets and specific liabilities, difficulties arose in trying to identify which liabilities should be considered as related to the debt securities being reported at fair value.

In May 1993, the Board issued Statement 115. The Statement is effective for fiscal years beginning after December 15, 1993.

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CURRENT ACTIVITY

In addition to its Exposure Draft on disclosures about derivative financial instruments, the Board currently is considering two areas of the financial instruments project.

Hedging and Hedge Accounting

In September 1991, the Board approved issuing a staff Research Report on hedging, *Hedge Accounting: An Exploratory Study of the Underlying Issues*. Since January 1992, the Board has been deliberating issues related to hedging and hedge accounting. The Board reached tentative agreement that special hedge accounting would be permitted if the relationship between hedging instruments and hedged items met certain criteria. However, the Board was unable to agree on the key issue of whether deferral of gains and losses on hedging instruments should be permitted for hedges of forecasted transactions.

As a consequence, the Board authorized the staff to prepare a report on its deliberations that included the tentative conclusions it had reached. Issued in June 1993, *A Report on Deliberations, Including Tentative Conclusions on Certain Issues related to Accounting for Hedging and Other Risk-adjusting Activities* solicited comments from constituents and provided the basis for two meetings in September 1993 with individuals who have expertise in the field of hedges of foreign currency risk, commodity price risk, and interest rate risk.

The Board began a comprehensive reconsideration of hedging-related issues in the fourth quarter of 1993. The hedging meetings that have followed in 1994 were exploratory, seeking to define the exposures to risk that, if hedged, could receive special accounting. In tandem with its reconsideration of issues related to conventional hedge accounting approaches, the Board has been examining an alternative model that would resolve a significant portion of the issues associated with hedging and hedge accounting by specifying the accounting for derivative instruments. We are hopeful that we will issue an Exposure Draft of a proposed Statement by the end of 1994.

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Securitization

Since the fourth quarter of 1993, the Board has been studying the nature of various financing projects including securitizations of mortgage loans, credit card receivables, and other financial assets not involving financing transactions. The Board's objective is to develop consistent accounting standards for those transactions including determining when financial assets should be considered sold and derecognized and when related revenues and expenses should be recognized.

During the first half of 1994, the Board has been considering an approach that focuses on analyzing the components of financial asset transfers and would require each party to a transaction to recognize those components held or obtained as a result of the transaction. The Board is currently considering measurement issues associated with this approach and its application to more complex types of transactions.

Looking Forward

The Board expects to be working on its financial instruments project for several years to come. The 1991 Discussion Memorandum (see page 30) identified 90 issues, and our recent Statements and current work on accounting for derivatives, hedging, and securitization involve only a fraction of those issues. The Board also expects to continue active contact with our counterparts in other countries as they too struggle with the financial reporting challenges posed by innovative financial instruments.



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